To regret or not to regret, does it matter for physicians’ later functioning?

A nationwide and longitudinal study over 15/20 years after leaving medical school (NORDOC).

Prof. em. Tore Gude, prof. em. Per Vaglum, prof. Reidar Tyssen & Research fellow Javed Mahmood

Department of Behavioural Sciences in Medicine, Institute of Basic Medical Sciences, Faculty of Medicine, University of Oslo
To regret (Webster’s unabridged Dictionary)

- To feel:
  - Sorrow
  - Remorse
  - Vanishment
  - Loss
  - Disappointment
  - Dissatisfaction
Regretting

Negative feelings with impact upon:

• Quality of life
• Interpersonal functioning
• Family life
• Work
• Social life
• Fullfillment
Source of regretting

- Situation/context?
  or
- Personality?
  or
  Both?
Do physicians regret choosing medicine?

• A survey among 24,000 US doctors showed a decline from 69% in 2011 to 58% in 2014 that would choose medicine once more

• Among UK GPs, increase from 14% (1998) to 22% (2001) in intention to leave within the next five years.

• Reason: Decrease in job satisfaction.

Supposed effects of NOT regretting/being satisfied with job among young and mid-career doctors:

- Motivation for work
- Giving optimal patient care
- Enduring stress, esp. in the emergency room
- Stay healthy
- «Pay back» to society for an expensive education
Norwegian doctors vs. gen. Population

Very/extremely satisfied with life
PGY- 9/10

40% among doctors
1/2 (or more) among general population
Statistics (doctors vs. general population):
Chi-Square = 18.5
P<0.001

(Tyssen et al 2009)
Norwegian doctors vs. gen. Population

Dissatisfied with life (any category) in PGY-9/10

- 6.7% (26/387) among doctors
- 2.0% (11/561) among general population
- Chi-square = 13.8
  \[ P < 0.001 \]

(Tyssen et al 2009)
Theoretical model

Situational factors
- work,
- fam./social

Personality traits

To regret

Job Stress
- Burnout
- Psychological distress

Perceived skills
- Well-being
- Job satisfaction
Aims

• On this background, we wanted to investigate:

  a) The magnitude of the problem with regretting
  b) What characterizes doctors who regret
  c) What consequences regretting as a graduating student may have later in the career.
Sample

- Two cohorts (NORDOC) comprised of participants from all Medical Schools at Norwegian universities:

- 1. Students starting **1993** and graduating 1999 (NORDOC I)

- 2. Physicians graduating in **1993/94** (NORDOC II)
The two NORDOC cohorts

Student cohort (NORDOC I)

1993  1996  1999  T-4  T-5  T-6

5th pgy  10th pgy  15th pgy (2014)

Young doctor cohort (Nordoc II)

T-1  T-2  T-3  T-4  T-5  T-6

5th pgy  10th pgy  15th pgy  20th pgy (2014)

Graduating  End internship
Methods

• Mailed questionnaire at medical school termination and consecutively every fifth year.

• Content (a.o.):
  • Perceived medical school stress - 13 items (Vitaliano, 1984)
  • Job stress - 43 items (Cooper, 1989)
  • Burnout - emotional exhaustion (22 items) - depersonalization - reduced personal accomplishment (Maslach, 1996)

• Items on: Job satisfaction
  Well-being
  Perceived skills
• Response rates:
  Generally 60-70%  
  At 15/20-year follow-up (2014), 562/978 (57.4%).

• Data collection completed, therefore, results can deviate slightly from submitted abstract.
At the end of medical school:

• 25.5% had often/once in a while regretted their choice of medicine
• 21.7% once in a while
• 3.8% often

Regretting - higher scores on:

<table>
<thead>
<tr>
<th></th>
<th>Once in a while</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Neuroticism</td>
<td>F = 30.84</td>
<td>F = 8.18, p &lt; .001 (scale 1-9)</td>
</tr>
<tr>
<td>- Perceived stress</td>
<td>F = 59.12</td>
<td>F = 69.79, p &lt; .001 (1-5)</td>
</tr>
</tbody>
</table>

(contr. for Neuroticism)
Results - (cross-sectional)

- Gender differences:
- Regretting once in a while:
  - Female doctors vs. male, 23.4% vs. 19.5%, $X^2 = 1.91$, n.s.

- Regretting often:
  - Female doctors vs. males, 5.2% vs. 2.1%, $X^2 = 5.71$, p = .021

- No age gradient
- No effect from:
  - Having children (or not)
  - Ethnicity
Results (cont.) - longitudinally

• 15/20 years after graduation - regretting:

  - 22.4% (25.5%) often/once in a while
  - 19.8% (21.7%) once in a while
  - 2.6% (3.8%) often
Results (cont.) longitudinally

Those regretting often/once in a while at medical school termination had 15 years later higher levels of:

• **Job stress** - 1.91 vs. 1.81, \( F = 4.44, \) \( p = .036 \)
  (scale 1-5)

• **Burnout** - 2.64 vs. 2.42, \( F = 30.04, \) \( p < .001 \)*
  (scale 1-5)

• **Psycholog. distress** - 0.64 vs. 0.34, \( F = 27.92, \) \( p < .001 \)*
  (scale 1-5)

* Controlled for level of Neuroticism

Used alcohol more often to cope with life situation, 41.4% vs. 21.7, \( X^2 = 5.37, \) \( p = .029 \)
Results (cont.) longitudinally

• Those regretting *often/once in a while* at medical school termination had 15 years later lower levels of:

• **Job satisfaction** - 4.03 vs. 4.33, $F = 10.05$, $p = .002$
  (scale 1-7)

• **Self-reported skills** - 4.97 vs. 5.17, $F = 6.52$, $p = .011$
  (scale 1-7)

• **Well-being as doctor** - 4.64 vs. 5.51, $F = 39.30$, $p < .001$
  (scale 1-7)
Results (cont.) longitudinally

Is regretting over time **stable**?

Among those regretting often/once in a while at end of medical school (T-1),

53% regretted often/once in a while 15 yrs. later (T-6)

Among those never regretting T-1,

88% had never regretted (T-6)
Results (cont.) cross-sectional at T-6

Was proportions of those regretting often/once in a while different across positions:

64% working in hospitals

17% working as Gps or specialist practice
Conclusions

Results indicate:

• Regretting at the end of medical school can be a risk factor for later distress/dissatisfaction as a doctor.

• Neuroticism do not alone explain why those regretting are more burdened.

• Situational factors should be explored, personality factors should be counselled.
Thank you for your attention!!