

## IS QUIET BAD? Introversion in EM-bound students

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## Conflict of interest

- The authors have no conflicts of interest related to this presentation to disclose.

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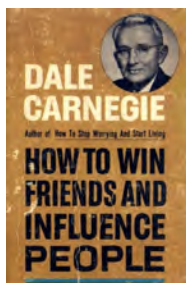
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## Objectives

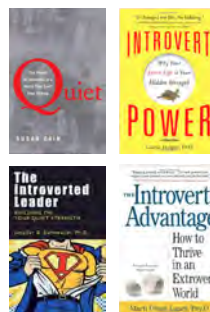
- Define the psychological and sociological basis of introversion and extroversion and describe how these traits affect an individual's behaviors and preferences.
- Compare and contrast specific features commonly associated with introverts and extroverts and discuss how both groups have characteristics that are both adaptive and potentially maladaptive in EM.
- Describe specific challenges that introverted EM-bound students and EM residents face in medical school, the EM application process, and residency.
- Provide strategies that can be used in counseling EM-bound students and residents to maximize their success throughout all phases of training and practice.

## Dale Carnegie - 1936



Carnegie's "extrovert ideal" is representative of earlier views of introversion as a "disease" that has strong negative consequences, but can be "cured" with deliberate practice.

## Susan Cain (2012)



A more modern and scientific view expressed by Cain (and many others) recognizes the strengths of introverts and recognizes that personality type is largely fixed. Introverts can learn adaptive behaviors that can help them succeed in an extrovert-friendly culture.

## Carl Jung (1921)

### Extroverted attitude

- Outward flowing of personal energy
- Sociable and confident in unfamiliar surroundings
- Less cautious and fearful
- Tend to be optimistic and enthusiastic

### Introverted attitude

- Inward flowing of personal energy
- Withdrawal to concentrate of subjective factors
- Happy alone
- Rich imagination
- Prefer reflection to activity

## Myers-Briggs Type Indicator (1942)

### Extroverted

- Action oriented
- Seek breadth
- "frequent" interaction
- Recharge spending time with people

### Introverted

- Thought oriented
- Seek depth
- "Substantial" interaction
- Recharge spending time alone.

## Biological Theories

### Hans Eysenck (1967)

- Individuals seeks "just right" amount of social stimulation
- Ascending reticular activating system (ARAS) acts as a filter controlling flow of sensory information
- Differences in ARAS between introverts and extroverts explain different tendencies

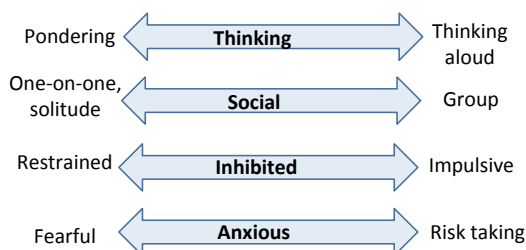
### Jerome Kagan (1989)

- Identified "high reactive" and "low reactive" infants.
- High reactive infants developed into introverts, low reactive into extroverts
- Hypothesized that the excitability of the amygdala differentiates between high and low reactive individuals

## Five Factor Model (1985)

- Introversion/Extraversion is one of a number of dimensions that when combined represent the range of human personality
  - Neuroticism
  - Extraversion
  - Openness to experience
  - Agreeableness
  - Conscientiousness

## Four Domains of Introversion (2011)



Grimes, J.O., Cheek, J.M., & Norem, J.K. (2011, January). Four meanings of introversion: Social, thinking, anxious, and inhibited introversion. Presented at the annual meeting of the Society for Personality and Social Psychology, San Antonio, TX.  
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## Measuring introversion

- Eysenck Personality Questionnaire
- Meyers-Briggs Type Indicator
- NEO-Personality Inventory

### Introverts in medical school

- Introverts achieve higher levels of academic success in the pre-clinical years but lower evaluations related to interpersonal behavior in the clinical years.
- Introverts experience a higher level of stress throughout medical school.

Doherty EM, Nugent E. Personality factors and medical training: A review of the literature. Med Educ. 2011;45:132-40.  
 Lavigne F, Costain P, De Froot T, De Maesseneer J. Medical students' personality characteristics and academic performance: A five factor model perspective. Med Educ. 2002;36:1050-6.  
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 McManus IC, Beattie A, Paine E. Stress, burnout and doctors' attitudes to work are determined by personality and learning style: A twelve year longitudinal study of UK medical graduates. BMC Med. 2004;2:29.  
 Tysan R, Dotoliowski FC, Rivik JO, Thorkildsen RF, Baksgaard O, Horn E, Gude T, Gronvold NT, Vaglum P. Personality traits and types predict medical school stress: A six year longitudinal and nationwide study. Med Educ. 2007;41:783-7.

### Medical Education Settings

Training Context and Student Role(s)	Goodness of Fit Between Style and Role	
	Introvert	Extravert
<b>Didactic lecture:</b> Active listening, take notes	High	Medium
<b>Anatomy lab:</b> Dissect cadaver; identify body organs and systems	High	Medium
<b>History and physical diagnosis:</b> Practice interviewing and examination skills with peers and patients	Medium	Medium

### Medical Education Settings

Training Context and Student Role(s)	Goodness of Fit Between Style and Role	
	Introvert	Extravert
<b>Discussion group</b> (less structured): Share thoughts on readings, issues	Low	High
<b>Case-based group</b> (more structured): (e.g., PBL) Think aloud; present learning objective	Low	High
<b>Group project:</b> Multi-roles such as brainstorm, plan, research, synthesize, document, present	Varies; high to low	High

### Medical Education Settings

Training Context and Student Role(s)	Goodness of Fit Between Style and Role	
	Introvert	Extravert
<b>Clerkship presentation:</b> (e.g., morning report) Present, think aloud	Medium	Medium
<b>Case discussions:</b> (e.g., "table rounds") Think aloud	Low	High
<b>Beside hospital rounds (as group):</b> Observe, shadow, inquire, explain	Low	High
<b>One-on-One with clinic preceptor:</b> Observe, shadow, inquire, explain	High - Medium	Medium

### Assessment

Assessment Modality or Focus	Goodness of Fit Between Style and Role	
	Introvert	Extravert
<b>Standardized Examinations:</b> USMLE, NBME "shelf" exams, module exams	High	Medium
<b>Clinical skills assessment:</b> OSCE, simulation, direct obs, H&P presentation	Medium	Medium
<b>Group participation:</b> Beside hospital rounds, society small groups	Low	High
<b>Presentation and public speaking skills:</b> Case presentations, rounds	Low	High

### Personality type and EM

- Limited data
- One multi-site Australian study sampled 68 EM physicians.
- Most common MBTI was ENTJ (extrovert/intuitive/thinking/judging) at 18% (3x general population).
- Introversion exhibited by 49%

Boyd R, Brown T. Pilot study of Myers Briggs Type Indicator personality profiling in emergency department senior medical staff. Emerg Med Australas. 2005 Jun;17(3):200-3.

### Careers in Medicine (AAMC)

- Contains the Medical Specialty Preference Invoice that contains 18 items related to practice preference but does not address personality.
- Does have a “personality assessment” tool but EM is not in the database of specialties that link to MBTI types.

### “EM personality” – Fact or Fiction

- The role of personality type has been studied in undergraduate and graduate medical education but is relatively underdeveloped in EM compared to other specialties.
- It has not been scientifically demonstrated that there is a dominant personality type among Emergency Physicians.

### SLOE descriptors

#### Always good?

- Self-starter
- Go-getter
- Confident
- Assertive
- Stands-out

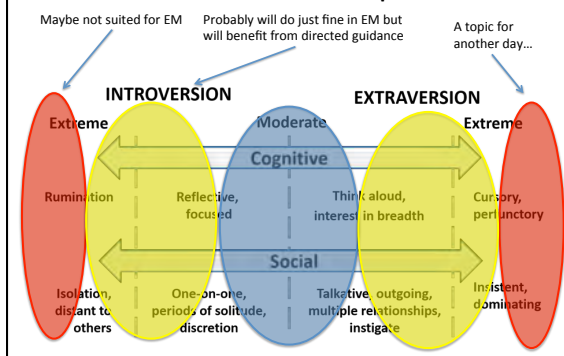
#### Always bad?

- Reserved
- Contemplative
- Thoughtful
- Thorough
- and the dreaded... Quiet

### What is the “EM Ideal”

- Both extraverts and introverts have features that are both adaptive, and potentially maladaptive for a career in EM.
- If there is an ideal candidate for EM, it is the one who recognizes his/her own predisposition and is able to adapt in the face of varying patient care scenarios.

### Students Across the Spectrum



### Summary

- The role of personality type in EM physicians and whether it has any predictive value of success is not known (and ripe for study).
- Many likely consciously or subconsciously gravitate towards extraverted candidates in the residency selection process.
- As with other areas within medical school, introverts face specific challenges but can benefit greatly from directed guidance.