



## Please SIT Based on How You Self Identify

- If identify as **introvert**, find a seat on the **left side** of the room (as face screen).
- If identify as **extravert**, find seat on the **right side** of the room (as face screen).



# Introversions in Medical Education Are There Implications for Assessment?

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**Wilhelm Lehmann, MD, MPH** - Family Medicine Residency Program Director - Aurora

**Joseph Portoghese, MD** - Chief Academic Officer & DIO - AdventHealth Orlando

**Kari Schmidt Oliver, MD** - Faculty – Ob/Gyn & NI-IX Climate Team – Aurora

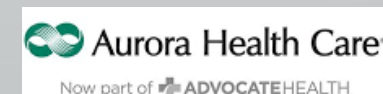
**Tricia La Fratta, MBA** - Manager GME Programs & NI-IX Vot+ER - Aurora

**Jacob Bidwell, MD**- VP, Academic Affairs, DIO & NI-IX Vot+ER - Aurora



Tucson, AZ

Thur April 4 - 2:35-3:50

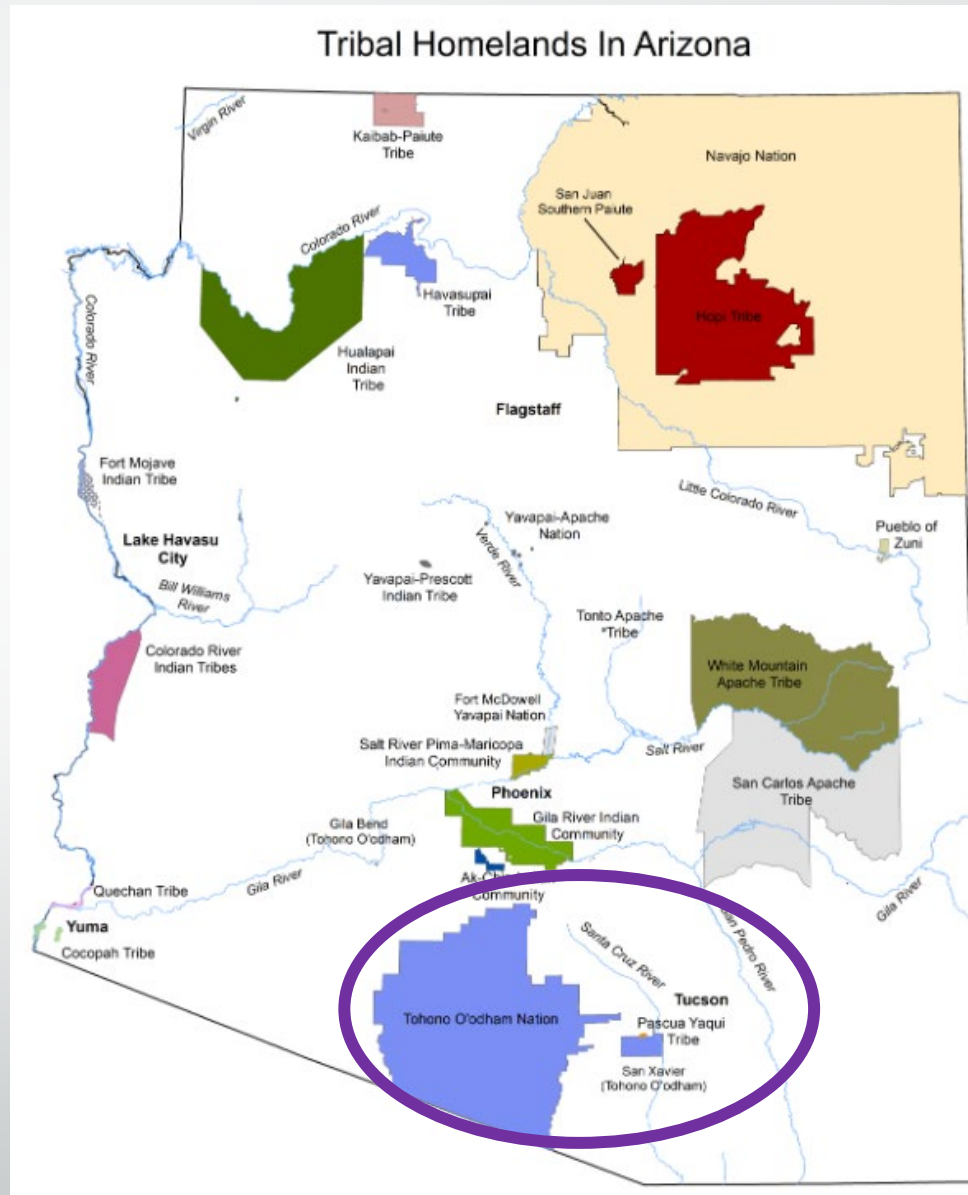


**On behalf of the presenters, I want to acknowledge that we are currently on the traditional territory of many nations including**

- **O'odham Jewed**
- **Sobaipuri**
- **Tohono O'odham**
- **Honokam**
- **Pascua Yaqui**

It is necessary for us to acknowledge these Native Nations and for us to work with them as we move equity and health care forward for all our patients (and ourselves)

<https://native-land.ca/>



<https://itcaonline.com/maps/>

# OBJECTIVES



1. Summarize the relationship between introversion and clinical performance assessment
2. Consider common performance assessment items that may contain a bias towards extroversion behaviors (e.g., actively participates)
3. Provide guidance to learners who tend towards introversion that allows them to showcase their strengths in clinical medicine (recognize that extroverts need help too but not in this session)

# WHY DID WE SEPARATE INTRO-EXTRO VERTS?

## TASK!! At Your Tables

- What's the **1** (one) question you'd like to ask the other group about their personality trait of "intro-extro" version?
- 5 Mins – have spokesperson for quick report out
  - 1 Q only
  - If duplicate prior grp – just ditto the group

# DEBRIEF



- What Q's did you want to ask each other?
  - Start with Extroverts – don't want them to be uncomfortable :-)
- Observations? From Our Presenters
  - Who/How started?
  - Sound levels?
  - Non Verbals?

# HOW THIS BECAME A TOPIC

## PD re: Graduating Resident Exit Interviews

- PGY 2 residents (completed a remediation experience for inpatient medicine) wondered if *"THEY REALLY NEEDED IT"*!
- Thought that the fact that they were naturally quiet led to an assumption that they lacked medical knowledge or indecision in patient care
  - Note: Classic time for remediation is PGY2 year when they are asked to supervise others and act independent of a "senior" or attending being physically present
- Perceived that there were assumptions made because they were quiet
  - they must be unhappy/angry with the program
  - they must be depressed
- Discussion – Identified as an "Introvert"

# PUT YOURSELVES IN PD'S SHOES?

## Large Group

- What would you say to this “exiting” resident...
- What if anything would you want to explore with this trainee?
- What would you think about/do - if anything - about this concern



# So What Does The Lit Say?



# INTROVERSION DEFINED – APA DICTIONARY

- n. orientation toward the internal private world of one's self and one's inner thoughts and feelings, rather than toward the outer world of people and things.
- Introversion is a broad personality trait and, like extraversion, exists on a continuum of attitudes and behaviors.
- Introverts are relatively more withdrawn, retiring, reserved, quiet, and deliberate; they may tend to mute or guard expression of positive affect, adopt more skeptical views or positions, and prefer to work independently.



# INTROVERSION - STUDENTS

- **Biological Underpinnings**
  - Higher sensitivity to your environment = *low amygdala threshold for stimulation* – regulate reactions with introverted behaviors reflective, shy
  - Higher amygdala thresholds = behaviors associated with extraversion behaviors (exploratory, outgoing, risk taking)
- **Associated with performance in med school (results mixed)**
  - Who, how, when, where, what studied (eg GPA, OSCEs, Clerkship Rating Items)
  - Introverts - higher stress levels than extraverted peers (generally r with poor academic performance outcomes)
  - Introverts higher acad success early (class)
    - Lower interpersonal behaviors in clerkships
  - Extraversion predicted higher clerkship grades = scores on
    - Skills involving communication, patient rapport, patient care, and teamwork

Tucker MA, Griffeth BT, Lee C and Buchanan AO. The importance of personality traits for predicting clinical clerkship grades and USMLE scores [version 1; peer review: 1 approved, 1 approved with reservations]. MedEdPublish 2022, 12:4 (<https://doi.org/10.12688/mep.17475.1>)  
Chisholm-Burns, M.A., Berg-Poppe, P., Spivey, C.A. et al. Systematic review of noncognitive factors influence on health professions students' academic performance. Adv in Health Sci Educ 26, 1373–1445 (2021). <https://doi.org/10.1007/s10459-021-10042-1>

# ONE OF MOST RECENT MED STUDENT

- Research demonstrates that as a student progresses through medical school, personality traits of:
  - **Openness, Conscientiousness, and Extraversion** become increasingly important predictors of success in the clinical phase of medical education
  - **In combination with empathy** predictive of clinical evaluations and humanism nominations

RESIDENTS?

Pflipsen M. Characteristics Top Performing Medical Students Display in the Medical School Admission Process (Doctoral dissertation, Uniformed Services University of the Health Sciences, Bethesda, Maryland 20814). 2021

<https://apps.dtic.mil/sti/pdfs/AD1186128.pdf>

# SURGERY & INTROVERSION/EXTROVERSION

- **Big 5 Model** of personality inventories || Dutch – compared to norm pop
- Note: Personality traits remain relatively stable from early on into adulthood onwards but CAN learn “skills”

Personality Dimensions	Surgically Oriented MSs (N=54   54% F)	Surgical Residents (N=69   23%)	Surgeons (N=60   56%)
1. Openness to experience/open-mindedness	↑*	ND	↑**
2. Agreeableness	↑**	↑**	↑*
3. Neuroticism/negative emotionality	ND	↑**	↑**

\* P<.01; \*\* P< .001 | Sier VQ, Schmitz RF, et al. The gig five: Studying the surgical personality. Surgery. 2022 Sep 3.

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1. Openness to experience/open-mindedness	↑*	ND	↑**
2. <b>Heterogeneity in extraversion levels of individual group members has been related to team performance</b>			
3. Neuroticism/negative emotionality	ND	↑**	↑**
<b>4. Extraversion</b>	↑**	↑**	↑**
<b>5. Conscientiousness</b>	↑**	↑**	↑**

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# Implications for Assessment Tools?



# ASSESSMENT TOOLS

## 1. Introversion is NOT the opposite of Extraversion

- Often looked at and studied that way...
- Makes extraversion seem like positive; introversion = negative
- Scales often leave off the positive attributes of introversion... hence don't shine.

Ex: Large groups, fast moving/paced – extraverts will speak up—and thus may appear to be stronger...

Consider these items

Blevins DP, Stackhouse MR, Dionne SD. Righting the balance: Understanding introverts (and extraverts) in the workplace. *International Journal of Management Reviews*. 2022 Jan;24(1):78-98.

# BREAK OUT GROUPS – TASK

- 7 items from actual assessment forms
  - 5 Aligned with ACGME Competencies | 2 Clinical Teach
- Read each item and decide “does it favor” [Worksheet]
  - Introvert, Extrovert, Neutral
  - If favors introvert or extrovert –how would you revise it

ORIGINAL ITEM <i>ACGME Competency Items</i>	DOES ITEM FAVOR			IF ITEM FAVORS INTROVERT OR EXTROVERT HOW WOULD YOU REVISE IT?
	Introvert	Extrovert	Neutral	
1. Demonstrates knowledge about established and evolving biomedical, clinical, epidemiological and social behavioral sciences as well as the application to patient care (MK) <sup>1</sup>				

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  - If favors introvert or extrovert –how would you revise it
- **Return we will**
  - Walk through each item “poll” –Debrief
  - If revise –ask for some examples

# DEBRIEF! FAVOR EXTROVERTS? INTROVERTS? NEUTRAL

1. Demonstrates knowledge about established and evolving biomedical, clinical, epidemiological and social behavioral sciences as well as the application to patient care (MK)<sup>1</sup>
2. Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates (ICS)<sup>1</sup>
3. Provides constructive verbal and written feedback to other members of the health care team (PBL&I)<sup>1</sup>
4. Excellent education and counseling of patients, families, and colleagues; always "interpersonally" engaged; excellent oral presentations; records are complete and accurate (ICS)<sup>2</sup>
5. Demonstrates respect, compassion, integrity, honesty; teaches/role models responsible behavior; committed to self-assessment; acknowledges errors; considers needs of patients, families, colleagues; reliable (Prof)<sup>2</sup>

# DEBRIEF CLINICAL TEACHING EVALUATION ITEMS

– FAVOR EXTROVERTS? INTROVERTS? NEUTRAL

6. Displays enthusiasm for teaching<sup>3</sup>

7. Available and accessible<sup>3</sup>

# ASSESSMENT

Traditional Item	Revised?
Actively participates (e.g., talks)	Active listener   Thinks before speaks   Listens to peers before engaging
Willing to initiate discussion	Offers a synthesis of the information
	Offers original ideas
	Asks relevant questions
	Extends discussions by building on ideas of others
	Offers opposing viewpoints
Knowledge/Comprehensive	Shows depth of understanding
	Makes connections
	Demonstrates curiosity
	Demonstrates a growth mindset

de Jongh R, ET AL. 12 tips to hear the voices of introverts in medled... and to improve the learning climate for everyone. MedEdPublish. 2021 Sep 3;10(107):107.  
 Quiet Engagement Rubric. Quiet Schools Network. <https://www.quietrev.com/wp-content/uploads/2018/11/RS-Quiet-Student-Engagement-Rubric.pdf>



# **How to Coach Introverts in Skills Needed in Clinical Performance?**

# HOW INTROVERTS VS EXTRAVERTS DIFFER

INTROVERTS	EXTRAVERTS
Thrive in classroom settings	Thrive when put on the spot
Need time to process questions before offering input	Speak up early, may dominate discussions
Prefer to be behind the scenes	Enjoy frequent interactions with peers and mentors
Quiet reflection before speaking often interpreted as disinterest	Eagerness to participate often interpreted as more engagement



# LEADER STRATEGIES TO OPTIMIZE “DISPLAYED” STATE

LEADER	INTROVERT	EXTROVERT
Become Silent Literate (agenda, pauses, sm grp)	Speak Up ‘before ready’ (take risk)	Pause before responding
Utilize each’s natural abilities	Vision, introspection, and analytical abilities	Charm, charisma, communication skills, assertiveness
Encourage Adaptative Skills (Self-Regulation) - Focus on Performance Needed for Task	Volunteer lead team; collaboration	Be Inclusive - Other voices
Give Introvert’s Accolades Encourage “self-promotion”	Elevator speech about accomplishment	NA

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# STRATEGIES TO OPTIMIZE LEARNING

- Recognize position on introvert-extrovert continuum
- Reflect on implicit biases
- Reinforce “introverted skills” in feedback
- Encourage reflection on how to collaborate
- Offer strategies to show more energy in interactions
- Adopt supportive approaches
  - Pause after asking a question
  - Foster psychologically safe environments

de Jongh R, de la Croix A. 12 tips to hear the voices of introverts in medical education... and to improve the learning climate for everyone. MedEdPublish. 2021 Sep 3;10(107):107.

# IT'S NOT AN OR – IT'S AN AND

- Self regulation - Awareness by both faculty & learners
- Performance needed to be a physician
- Not changing personality
- Adaptative Skills can be learned (coaching)
  - Introverts
  - Extraverts

# MEDICAL STUDENT

**Written on Award Application:** Please share a personal, professional, or academic challenge you faced during medical school. Provide a brief description of why it was challenging and how you dealt with it.

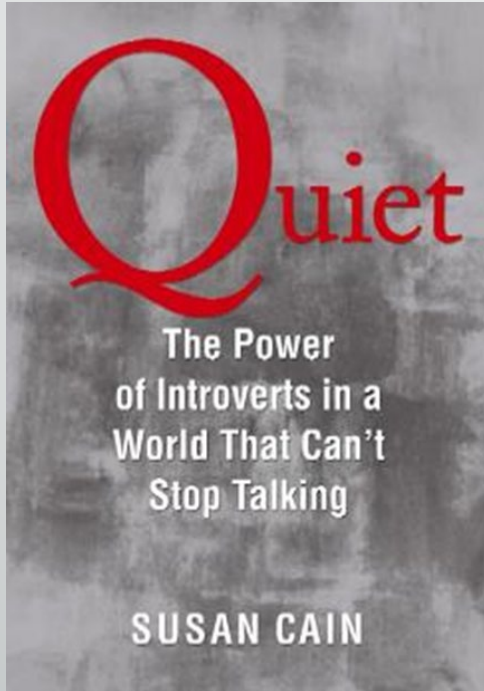
- During my preclinical years, I once received feedback from a classmate: **"You're doing great but I wish you could speak up more."** Every feedback received was taken seriously and reflect on as opportunities to improve myself. This feedback was particularly impactful for me. Then, I **began to see a pattern in the comments**--all relatively positive but all mentioning that I **"should hear your voice..."** or **"be more confident."**
- **I wrestled with these comments throughout medical school. Quite frankly, I did feel confident in what I did**--whether it was tackling difficult medicine topics, meeting a standardized patient for the first time, or collaborating with peers on (5th Clinic Applic) cases.
- **What I realized was that my introverted personality clashed with extroverted expectations of medical school.** My culture (is) one that respects authority and places value on being reserved, collided with the outgoing, assertive culture of other medical students.
- **As the years went on, I resented how I was and the culture I grew up in. Being a medical student was a significant part of my identity**--I wanted to excel but as an introvert, I was worried that I would appear uninterested, meek, or unintelligent.
- **Later on, I learned valuable lessons from this conflict. Upon much reflection and help from mentors,** I began to feel proud of who I was and own my quiet confidence.
- **Who I was made me self-sufficient, an empathetic listener, and a keen observer,** traits that would serve me well in the field of psychiatry. **What I came to realize is that I certainly have a place in medicine.**



# AiAMC

Alliance of Independent  
Academic Medical Centers

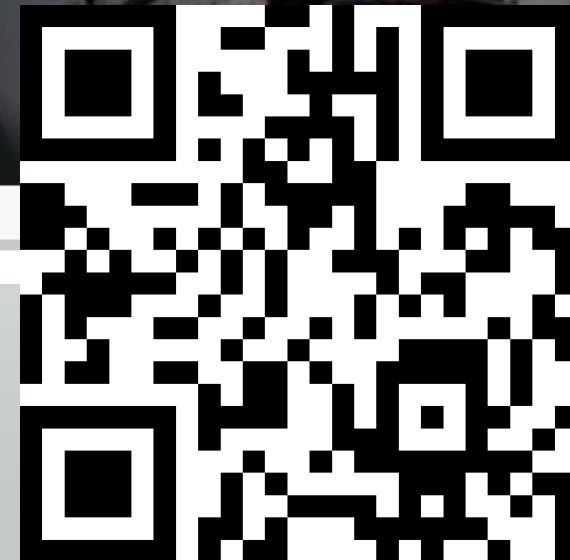
## BLOG ARCHIVE



May  
10  
2023

### The Irony of Being an Introvert- Shout it from the Rooftops!

Joseph D. Portoghese, MD, FACS  
Vice President AIAMC Board of Directors



# 10 YO *INTROVERT* WINS MARCH MADNESS

As we celebrate and value  
diversity of ALL Kinds!



# REFERENCES –OUR RECS

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We'd be happy to chat more about this...

