

Validating a willingness to communicate scale for advanced learners across digital and face-to-face contexts



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Willingness to Communicate: An Alpine Skiing Allegory



Do I go outside my comfort
zone?

Or do I play it safe?

Opening Discussion (Schema Activation 😊): Willingness to Communicate

Turn to someone near you and discuss (2 minutes):

- What makes you choose to speak—or stay silent—when using another language?
- Is willingness to communicate mostly a personality trait, or does it depend on the situation?
- Do more proficient learners always communicate more? Why or why not?



Part 1: Why WTC Matters

Why Study Willingness to Communicate?

- Many learners know the language but do not speak
- Communication is essential for language acquisition
- WTC explains why learners choose to speak—or stay silent

Definition of WTC

Willingness to Communicate (WTC):

A learner's readiness to initiate communication when given the opportunity.

“A readiness to enter into **discourse** at a **particular time** with a **specific person** or persons using an L2.”

(MacIntyre et al., 1998)

Why WTC is Important

- Language acquisition requires **use of the language**.
- WTC connects:
 - Motivation
 - Confidence
 - Anxiety
 - Classroom interaction
 - Language development
- If learners **do not speak** (Output Hypothesis), opportunities for acquisition decrease.



Part 2: Origins of the Concept

Origins in Communication Studies

- WTC was originally developed in **communication psychology** (McCroskey & Richmond, 1987).
- Key researchers:
 - James McCroskey
 - Virginia Richmond
- Original focus:
 - A **personality trait**
 - A tendency to **initiate or avoid communication**

Early WTC Research

- Researchers measured:
- Probability of communicating with:
 - strangers
 - acquaintances
 - friends
- In contexts such as:
 - dyads
 - small groups
 - meetings
 - public speaking
- Higher WTC correlated with:
 - lower communication anxiety
 - higher perceived competence



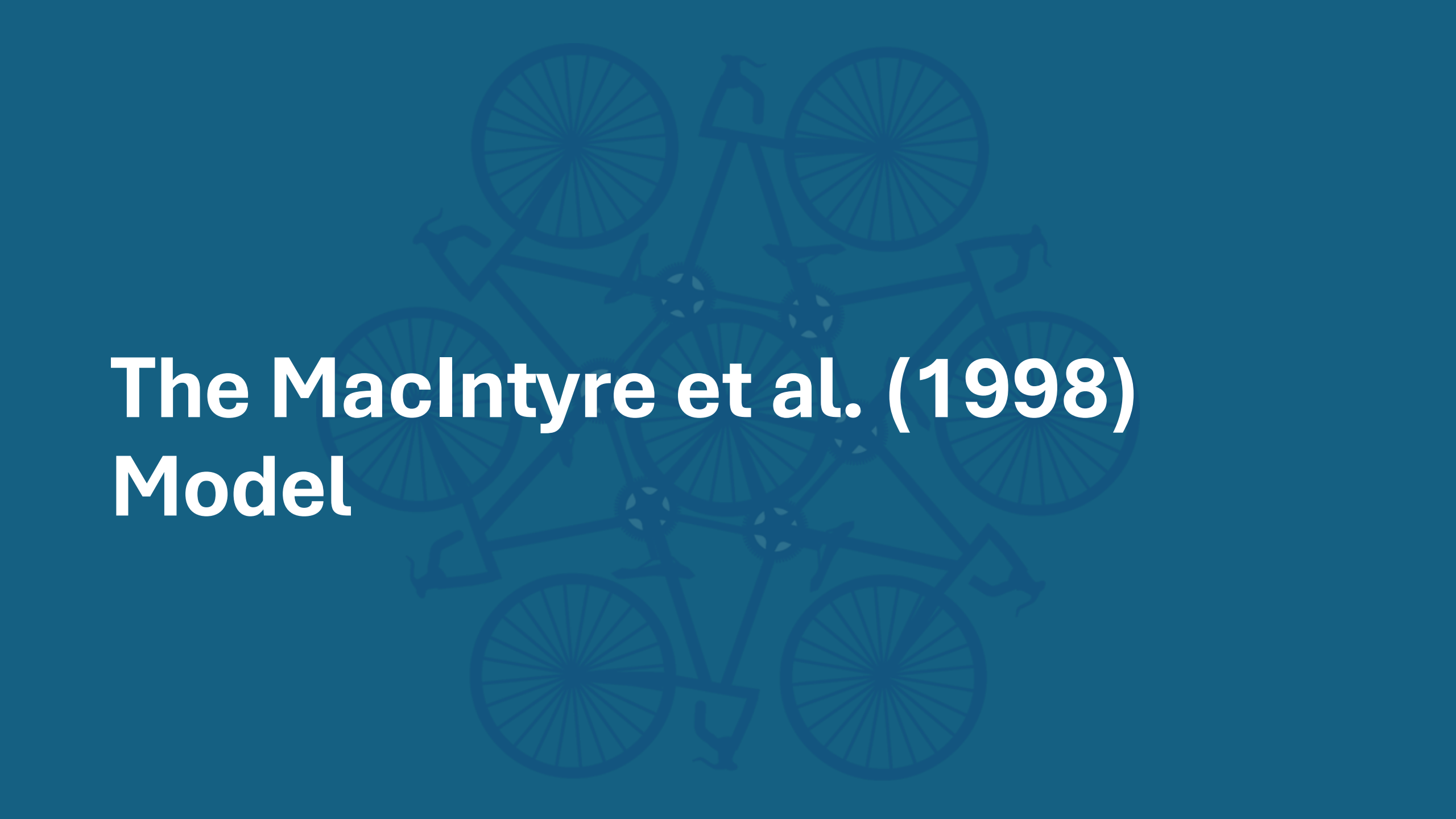
Part 3: WTC Enters SLA

Adoption into Second Language Acquisition

- WTC was adapted to **second language learning** in the 1990s (MacIntyre et al., 1998).
- Key scholars:
 - Peter MacIntyre
 - Zoltán Dörnyei
 - Richard Clément
 - Kim Noels
- Their question:
- **Why don't capable learners speak the L2?**

A Key Shift

- In L1 research:
 - WTC = **stable personality trait**
- In L2 research:
 - WTC = **situated psychological state**
- It depends on:
 - context
 - interlocutor
 - topic
 - confidence
 - anxiety



The MacIntyre et al. (1998) Model

The Pyramid Model

- Top:
 - L2 Use
- Just below:
 - **Willingness to Communicate**
- Lower layers include psychological and social variables.



Immediate Influences on WTC

- Variables closest to WTC:
 - **Desire to communicate with a specific person**
 - **State communication self-confidence**
 - **How confident a learner feels about communicating in the L2 *in a specific moment or situation*.**
 - It is **temporary, situational, and dynamic**—not a fixed trait.
- These directly influence whether a learner **speaks at a given moment**.



More Stable Influences

- Lower layers include:
 - Motivation
 - Intergroup attitudes
 - Personality
 - L2 competence
 - Social context
- These shape WTC **indirectly and over time.**

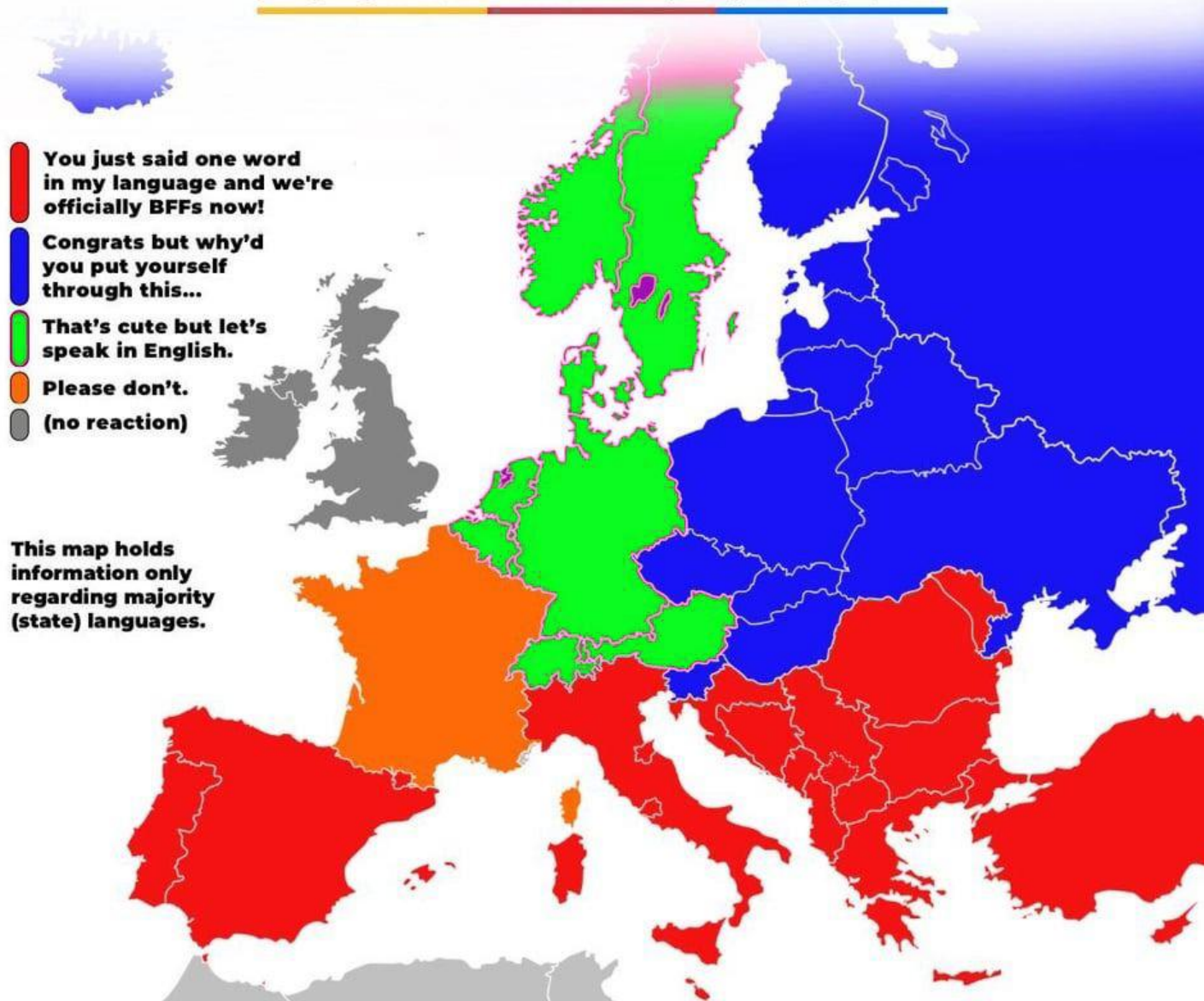


Is Digital WTC a Distinct Dimension?

- **WTC in Digital Contexts: What We Know**
 - Online environments often increase WTC
 - *(Freiermuth & Jarrell, 2006; Lee & Hsieh, 2019)*
 - Reduced anxiety and increased processing time
 - *(Freiermuth & Jarrell, 2006)*
 - Greater participation and risk-taking
 - *(Lee & Hsieh, 2019)*
- **BUT:**
 - Most studies treat digital communication as a *context*
 - Not as a **distinct dimension of WTC**

People's Reaction When You Start Speaking Their Language

@languages.eu | source: a fun map originally by u/droim



This map holds information only regarding majority (state) languages.

Limitations in WTC Research

- **Most WTC research has focused on English learners**
 - Predominantly EFL/ESL contexts
 - Limited research on LOTE (e.g., French, Hebrew, German)
 - Raises questions about generalizability
- **WTC research is concentrated at intermediate proficiency levels**
 - WTC assumes learners *can* communicate
 - Most studies involve learners who already communicate to some extent
 - Intensive English Programs, study abroad participants, ESL support programs, students preparing for university admission
 - Limited research on advanced language learners

From WTC Theory to Research Questions

WHAT WE KNOW

- WTC predicts communication
- Dynamic & context-dependent
- Focus on intermediate ESL learners

THE GAP

- Advanced LOTE learners underexplored
- Context differences unclear
- Scale validity underexplored

THIS STUDY

- Advanced learners
- LOTE
- Scale validation (Rasch & CFA)

→ Leads to Research Questions

Research Questions

- Can WTC be reliably measured among advanced LOTE L2 learners?
- Is WTC a unified construct, or does it vary across communication contexts?
- To what extent is WTC related to oral proficiency for advanced LOTE learners?

Participants

Gender

French

German

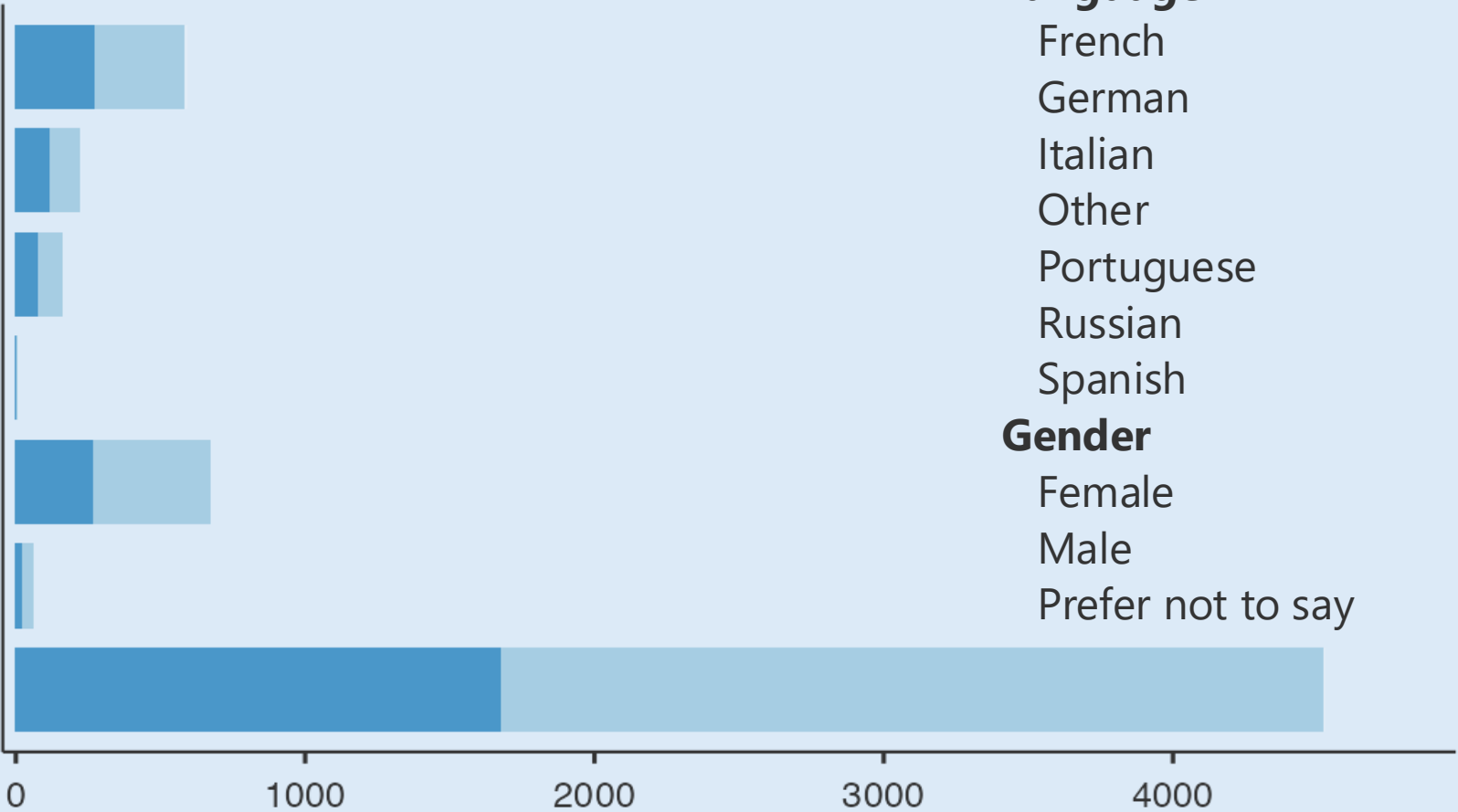
Italian

Other

Portuguese

Russian

Spanish



Frequency (N)

Female Male Prefer not to say

Overall (N=6,228)

Age

Mean (SD)

20.7(1.4)

Min, Max

17-58

Language

French

588 (9.4%)

German

217 (3.5%)

Italian

160 (2.6%)

Other

11 (0.2%)

Portuguese

669 (10.7%)

Russian

58 (0.9%)

Spanish

4,525 (72.7%)

Gender

Female

2,446 (39.3%)

Male

3,777 (60.6%)

Prefer not to say

5 (0.1%)

Participants

Overall (N=2938)

FormalStudy

No	3,293 (52.8%)
Yes	2,938 (47.2%)

Number of Classes

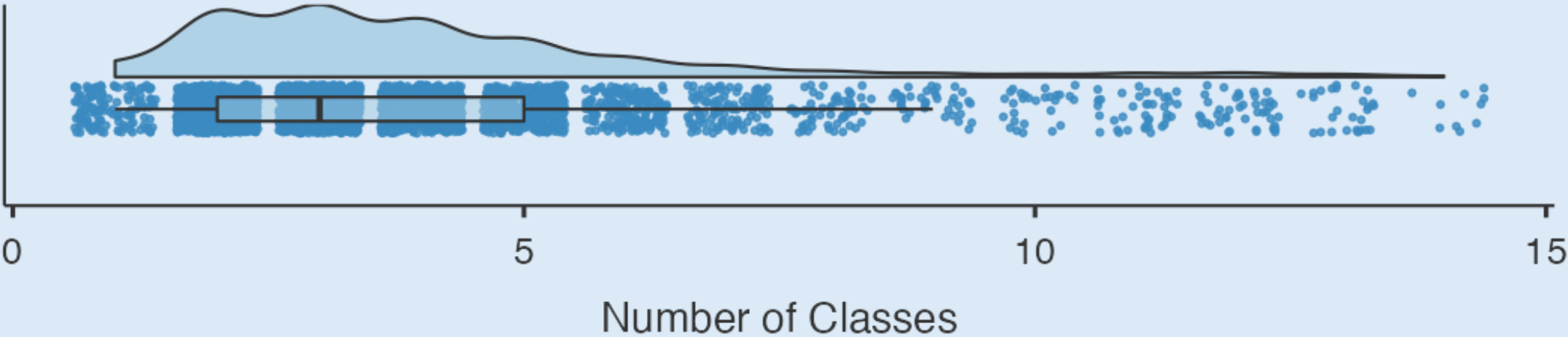
Mean (SD)	4.1 (2.4)
Range	1.0 - 14.0

FormalStudy



Frequency (N)

Number of Classes





Elder Cox in Italy 1989



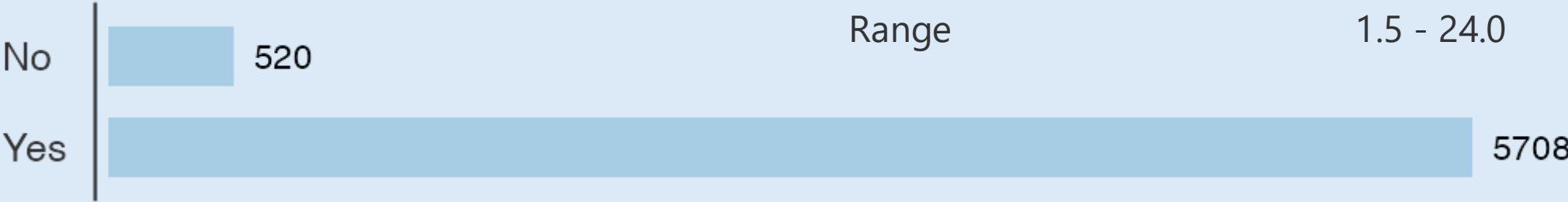
Participants

Overall (N=5708)

Missionary Service

No	520 (8.3%)
Yes	5708 (91.6%)

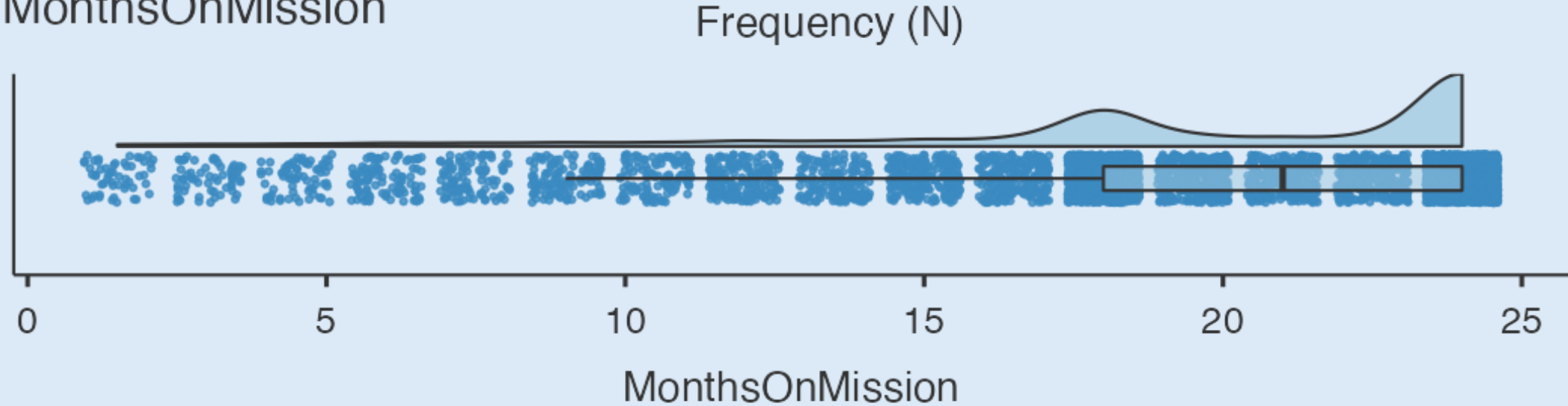
Missionary Service



MonthsOnMission

Mean (SD)	19.3 (5.6)
Range	1.5 - 24.0

MonthsOnMission



Note that women typically serve up 18 months and men up to 24 months

Instruments

- Oral Proficiency Interview-Computer (OPIc)
- WTC Instrument
 - WTC section of LASER
 - Section 1—Speaking with native speakers in the participant's home country (k = 6 of 6)
 - Section 2 (new)—Communicating with native speakers online (k = 3 of 5)
 - Section 3—Speaking with L2 TL speakers in a school setting (k = 4 of 8)
 - Only if they had reported formally studying the language
 - Section 4—Speaking with L2 TL speakers abroad (k = 4 of 7)
 - Only if they had reported missionary service or study abroad

LASER-Language Ability Self-Evaluation Resource

- **Part 1: Self-Evaluation Module**
 - Language Learning Background
 - Language Use
 - GRIT
 - Willingness to Communicate
 - Language Proficiency Self-Assessments
- **Part 2: Productive Language Samples Module**



WTC Instrument Items

Item	Statement
1.1	If I encountered some native speakers of [Language] in the street, restaurant, hotel, etc., I hope an opportunity would arise and they would talk to me.
1.2	If I encountered some native speakers of [Language] in the street, restaurant, hotel, etc., I would find an excuse and would talk to them.
1.3	If I encountered some native speakers of [Language] who are facing problems in my country because of not knowing our language, I would take advantage of this opportunity and would talk to them.
1.4	I am willing to accompany some native speakers of [Language] and be their tour guide for a day free of charge.
1.5	I am willing to talk with native speakers of [Language].
1.6	If someone introduced me to a native-speaker of [Language] I would like to try my abilities in communicating with him/her in [Language].

Item	Statement
2.1	If I encountered some native speakers of [Language] in an online forum, I hope an opportunity would arise and they would message me.
2.2	If I encountered some native speakers of [Language] in an online forum, I would find an excuse and would message them.
2.3	If I encountered some native speakers of [Language] who are facing problems online because of not knowing our language, I would take advantage of this opportunity and would message them.
2.4	I am willing to communicate with native speakers of [Language] online.
2.5	If someone introduced me to a native-speaker of [Language], I would like to try my abilities in communicating with him/her online.

WTC Instrument Items

Item	Statement
3.1	In order to practice my [Language], I am willing to talk in [Language] with my classmates outside the class.
3.2	I am willing to ask questions in [Language] in the classes at the university.
3.3	I am willing to talk and express my opinions in [Language] in the class when all my classmates are listening to me.
3.4	I am willing to have pair and group activities in the class so that I can talk in [Language] with my classmates.
3.5	In order to practice my [Language] I am willing to talk in [Language] with my professors outside the class.
3.6	I am willing to give a presentation in [Language] in front of my classmates.
3.7	In group work activities in the class when the group is composed of my friends, I am willing to speak in [Language].
3.8	In group work activities in the class when the group is NOT composed of my friends, I am willing to speak in [Language].

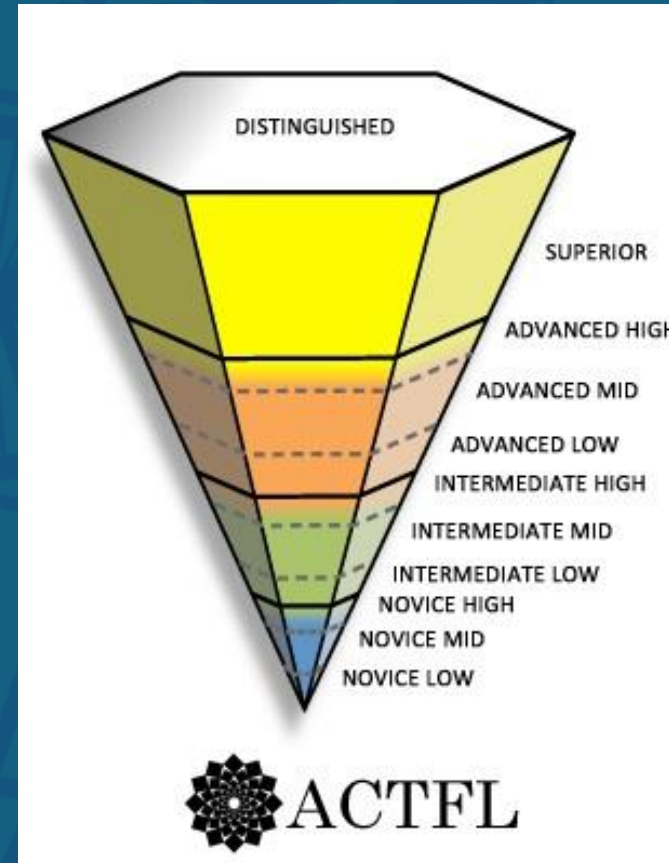
Item	Statement
4.1	In order to practice my [Language], I am willing to speak in [Language] with native English-speaking missionaries learning [Language].
4.2	I am willing to ask questions in [Language] in large group settings of other native English-speaking missionaries learning [Language].
4.3	I am willing to talk and express my opinions in [Language] in large group settings of other native English-speaking missionaries learning [Language] that are listening to me.
4.4	I am willing to speak in [Language] in pair and small group settings with other native English-speaking missionaries learning [Language].
4.5	I am willing to teach a lesson in [Language] in front of a large group of other native English-speaking missionaries learning [Language].
4.6	I am willing to speak in [Language] with a group composed of friends that are also [Language] learners.
4.7	I am willing to speak in [Language] with a group NOT composed of friends that are also [Language] learners.

OPIc

- Examinees self-assess general speaking level and answer survey questions about their hobbies and interests
- One of five forms is selected that target different ability levels of the ACTFL proficiency scale unless ordered by the school
 - Form 4
- Examinees respond to a number of questions based on the interests they provided by speaking to an avatar
- Speech sample is double-rated on ACTFL rating scale

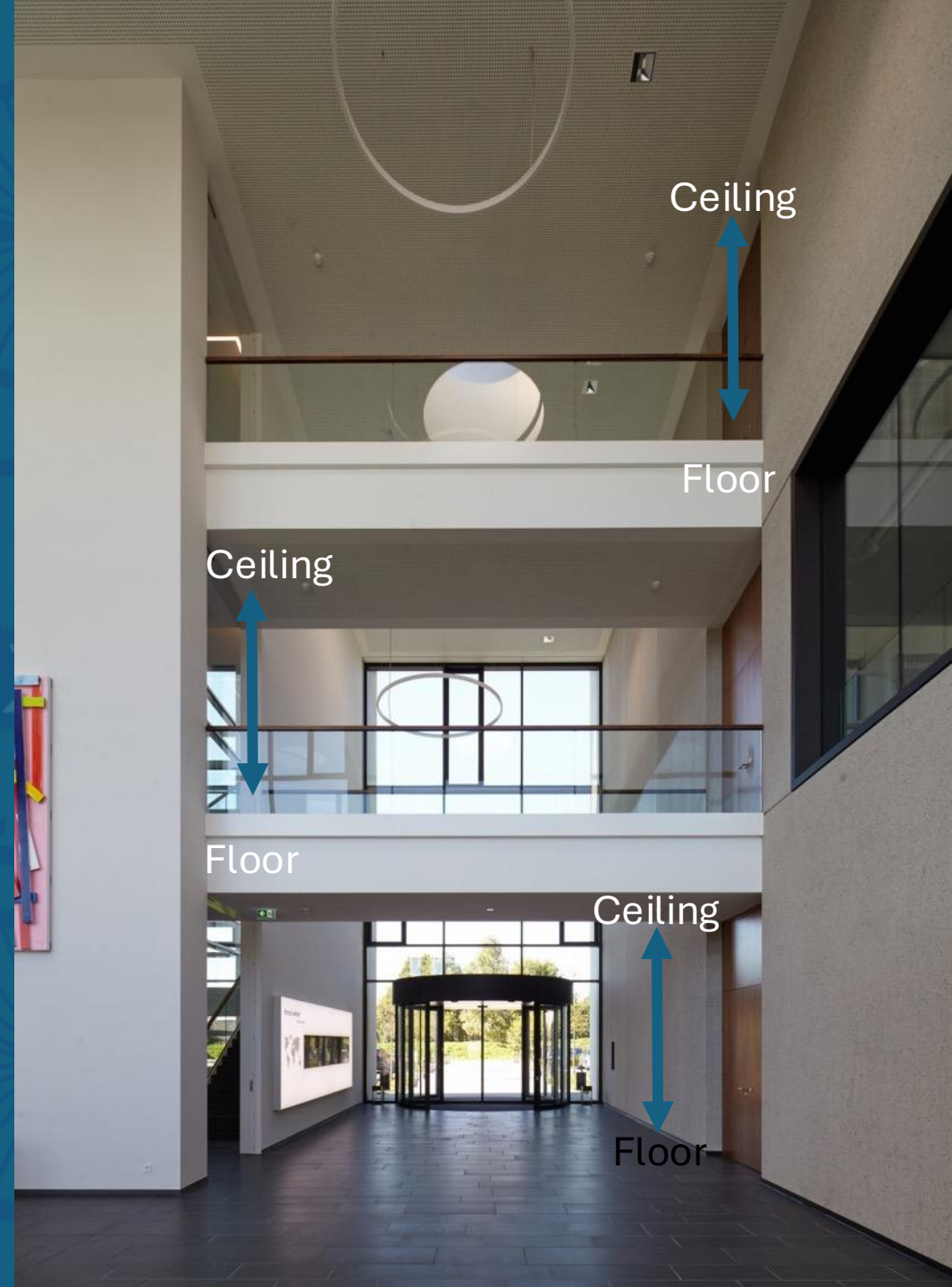
The ACTFL Proficiency Guidelines

- Not what you KNOW about the language, but what you can DO SPONTANEOUSLY in real world situations.
- Five major levels (each subsumes all lower levels) that describe a confluence of:
 - **F**unction
 - **A**ccuracy
 - **C**ontent/context
 - **T**ext Type



*Keep your
FACTs straight
and you can
determine the
major level!*

- Proficiency Guidelines describe major levels of language development.
- **Floor** describes highest level that can be maintained consistently.
- **Ceiling** describes lowest level in which patterns of breakdown appear.







OPIc Score Distribution

	NL	NM	NH	IL	IM	IH	AL	AM	AH	S	Total
Spanish				1	33	222	1,643	2,288	338		4,525
Portuguese					2	66	399	185	17		669
French	1	1	11	14	27	59	14	25	85		588
German						52	133	32			217
Italian			1		2	9	37	87	23	1	16
Other					3	1	25	24	6		68
Total	1	1	12	15	67	418	2,377	2,866	469	1	6,227

Data Analyses for Psychometrics

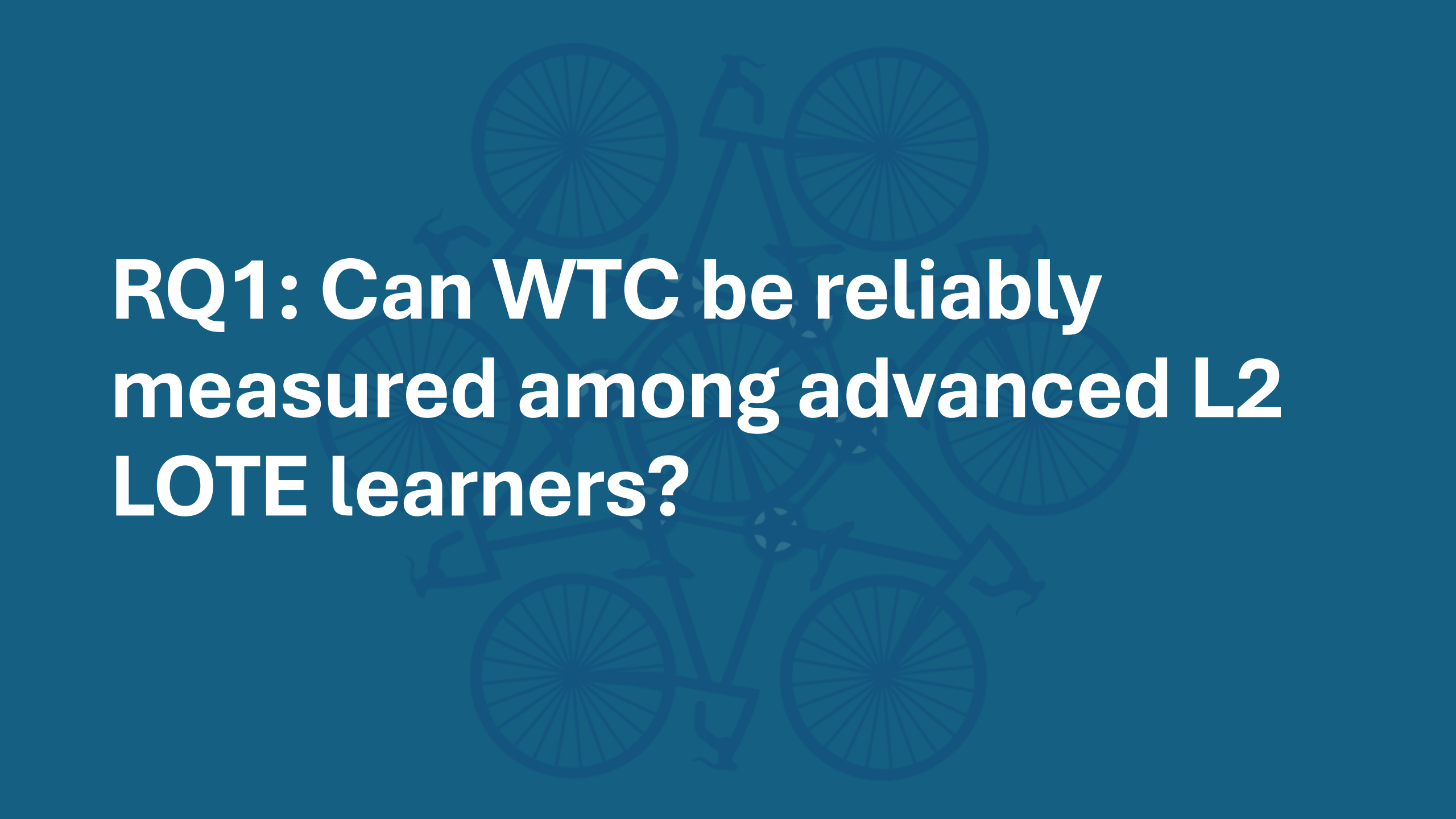
- **Two complementary approaches:**

- **Rasch Analysis**

- Item functioning
 - Reliability
 - Scale structure

- **Confirmatory Factor Analysis**

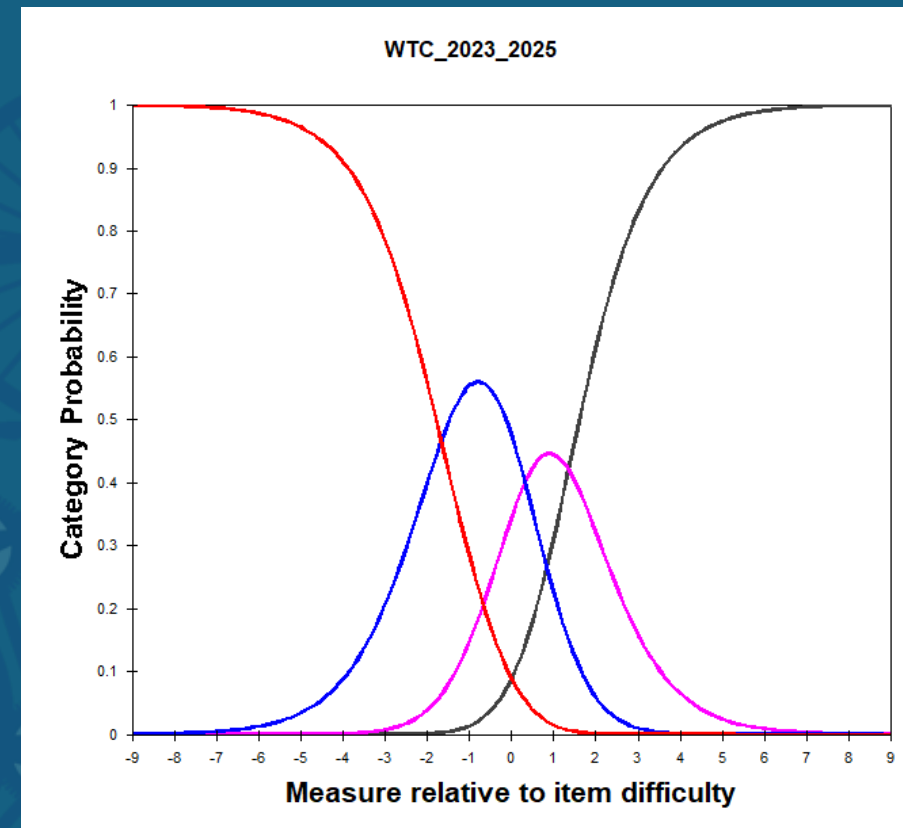
- Dimensionality
 - Factor structure
 - Construct validity

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**RQ1: Can WTC be reliably
measured among advanced L2
LOTE learners?**

Rasch Scale Structure

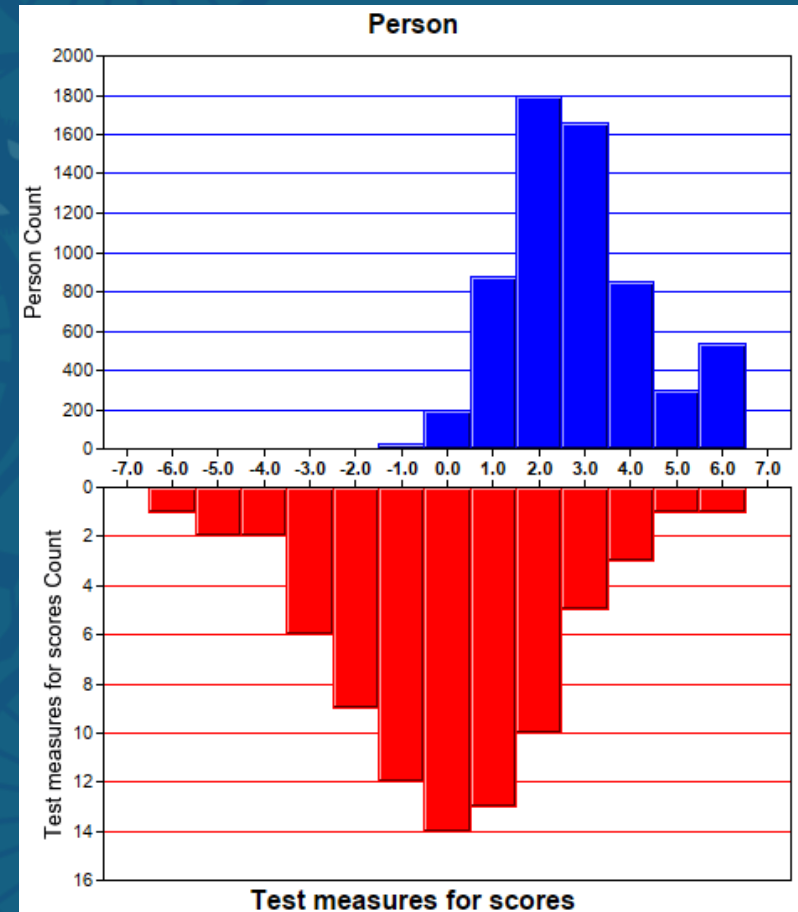
- Thresholds (Ordered)
 - $-1.67 \rightarrow 0.32 \rightarrow 1.35$
 - Categories increase as expected
- Key Takeaway
 - Scale functions well overall
 - But lower and middle categories are less distinct



CATEGORY	% USE	AVG MEASURE	FIT (MNSQ)	INTERPRETATION
0	2%	-0.28	1.31	Underused
1	10%	0.52	1.03	Acceptable
2	21%	1.59	0.94	Acceptable
3	68%	3.16	1.02	Dominant

Rasch Reliability Analysis

- High internal consistency
 - ($\alpha = .88$)
- Moderate person reliability
- ($\sim .73$)
- Good item fit



Confirmatory Factor Analysis

4-factor model (Home, Online, School, Abroad)

Acceptable model fit:

RMSEA (.045)

very good fit

SRMR (.058)

good fit

CFI (.87)

moderate fit

Factor loadings (.5–.8+)

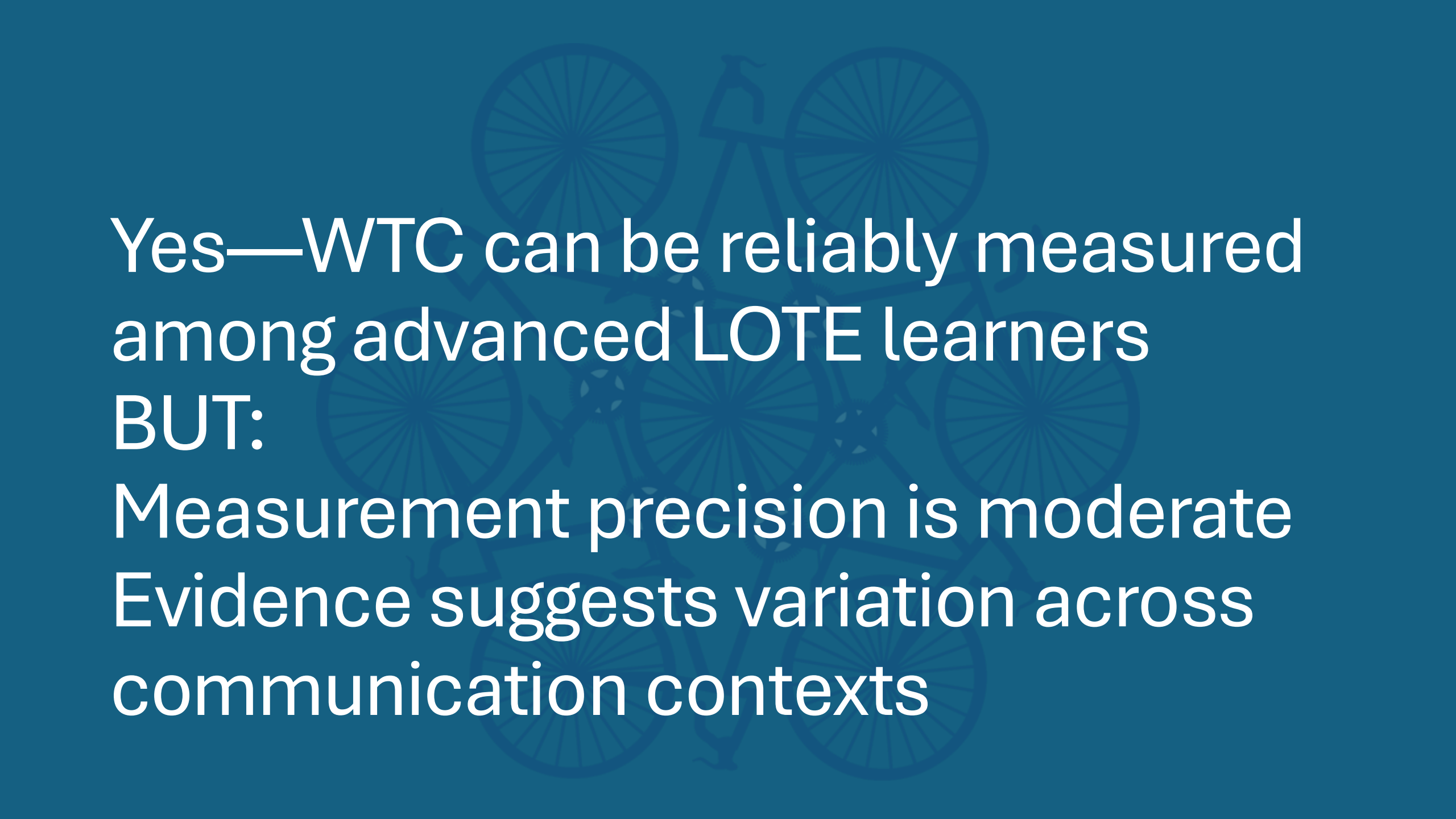
strong

Measurement model

Latent	Observed	Estimate	SE	95% CI		β	z	p
				Lower	Upper			
NS_At_Home	NS_At_Home_1	1.00	.00	1.00	1.00	.61		
	NS_At_Home2	1.55	.05	1.45	1.66	.61	28.9	< 0.001
	NS_At_Home3	.67	.03	.61	.73	.49	21.6	< 0.001
	NS_At_Home4	1.30	.06	1.19	1.42	.49	21.9	< 0.001
	NS_At_Home5	.54	.03	.49	.60	.57	19.1	< 0.001
	NS_At_Home6	.76	.03	.70	.83	.59	23.5	< 0.001
NS_Online	NS_Online1	1.00	.00	1.00	1.00	.82		
	NS_Online2	.98	.02	.93	1.02	.75	39.6	< 0.001
	NS_Online3	.81	.02	.77	.86	.69	35.1	< 0.001
	NS_Online4	.67	.02	.62	.71	.69	29.6	< 0.001
	NS_Online5	.78	.02	.73	.82	.74	34.7	< 0.001
NNS_School	NNS_SameLang_School1	1.00	.00	1.00	1.00	.56		
	NNS_SameLang_School2	1.10	.09	.93	1.26	.73	12.9	< 0.001
	NNS_SameLang_School3	1.39	.10	1.20	1.58	.81	14.3	< 0.001
	NNS_SameLang_School4	.72	.06	.61	.83	.63	12.7	< 0.001
	NNS_SameLang_School5	.86	.07	.74	.99	.64	13.2	< 0.001
	NNS_SameLang_School6	1.38	.10	1.18	1.59	.78	13.4	< 0.001
	NNS_SameLang_School7	.57	.05	.48	.67	.51	12	< 0.001
	NNS_SameLang_School8	1.06	.08	.91	1.21	.78	14.1	< 0.001
NNS_Abroad	NNS_SameLang_Abroad1	1.00	.00	1.00	1.00	.66		
	NNS_SameLang_Abroad2	1.56	.07	1.43	1.69	.84	23.4	< 0.001
	NNS_SameLang_Abroad3	1.56	.07	1.42	1.69	.84	22.5	< 0.001
	NNS_SameLang_Abroad4	.89	.04	.82	.97	.68	23.2	< 0.001
	NNS_SameLang_Abroad5	1.47	.07	1.34	1.60	.76	22.1	< 0.001
	NNS_SameLang_Abroad6	.93	.04	.85	1.01	.66	22.5	< 0.001
	NNS_SameLang_Abroad7	1.18	.05	1.08	1.27	.73	25	< 0.001

RQ1: Can WTC be reliably measured among advanced LOTE L2 learners?

- Evidence from Rasch Analysis
 - High internal consistency
 - ($\alpha = .88$)
 - Moderate person reliability
 - ($\sim .73$)
 - Strong item reliability
 - (1.00)
 - Rating scale categories function as expected
- Conclusion:
 - The scale functions reliably, though with limited differentiation at higher levels
- Evidence from CFA
 - Good absolute fit
 - (RMSEA = .045, SRMR = .058)
 - Moderate incremental fit
 - (CFI = .87)
 - Evidence of multiple underlying dimensions
- Conclusion:
 - WTC is measurable, but not strictly unidimensional

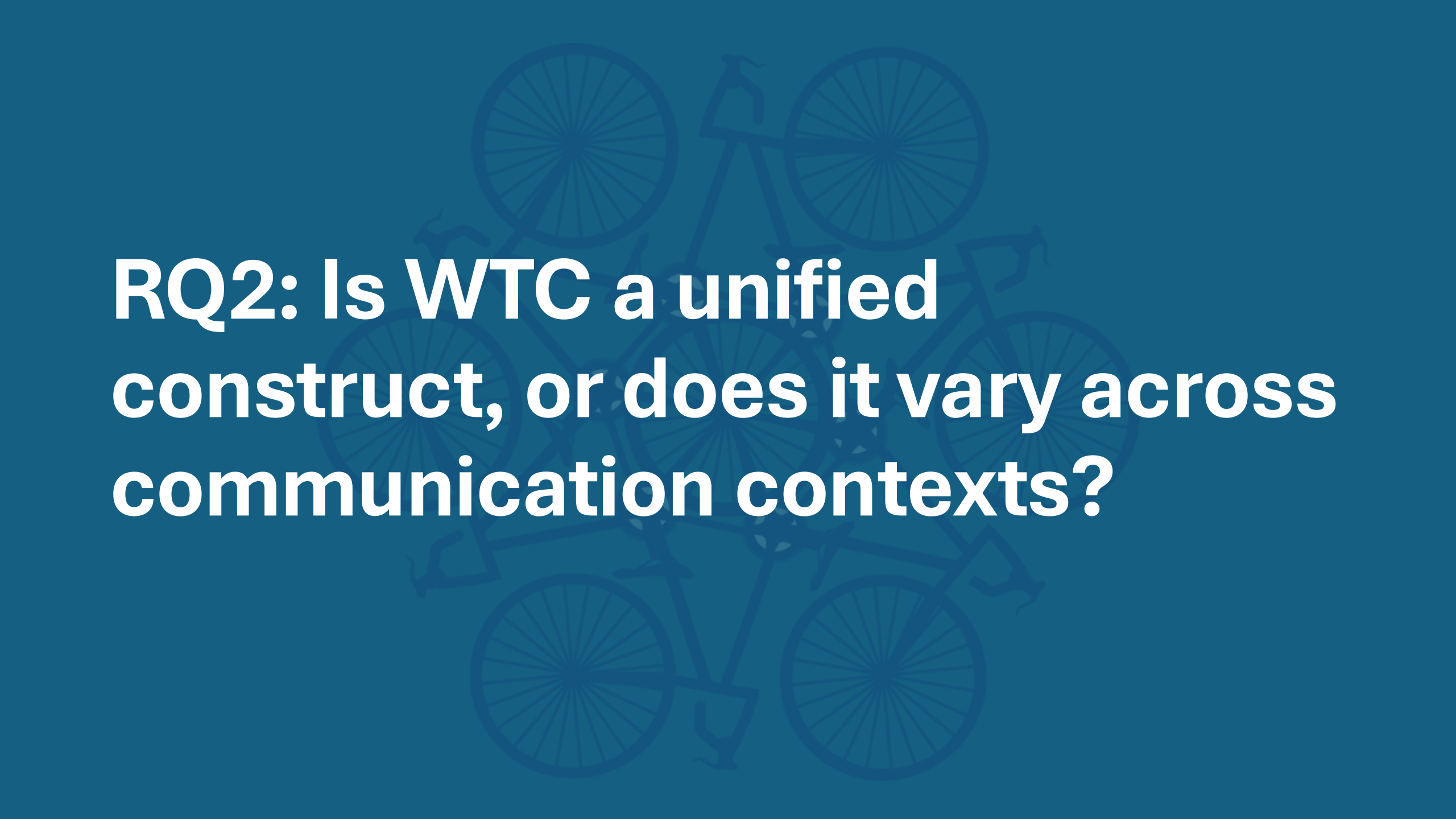


Yes—WTC can be reliably measured
among advanced LOTE learners

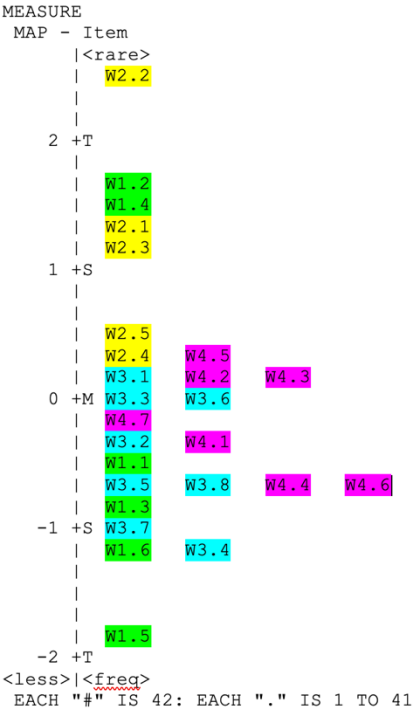
BUT:

Measurement precision is moderate

Evidence suggests variation across
communication contexts



RQ2: Is WTC a unified construct, or does it vary across communication contexts?



Subdomain	# Items	Measure (Logits)	Separation	Reliability	Outfit MNSQ
Overall	26	0.00	23.65	1.00	0.92
1. Native Speaker (Home)	6	-0.19	41.64	1.00	0.94
2. Online Communication	5	1.17	30.22	1.00	0.95
3. Same-Language (School)	8	-0.46	7.89	0.98	0.91
4. Same-Language (Abroad)	7	-0.16	10.55	0.99	0.88

Evidence from Rasch Subtest Analysis

- WTC in online contexts differed significantly from both school ($\Delta = 1.63$, $t = 3.77$, $p = .013$) and abroad contexts ($\Delta = 1.33$, $t = 3.11$, $p = .026$), suggesting a distinct dimension of digital communication.

Evidence from CFA

Comparison	Correlation (β)
Home – Online	0.61
Home – School	0.56
Home – Abroad	0.52
Online – School	0.33
Online – Abroad	0.36
School – Abroad	0.82

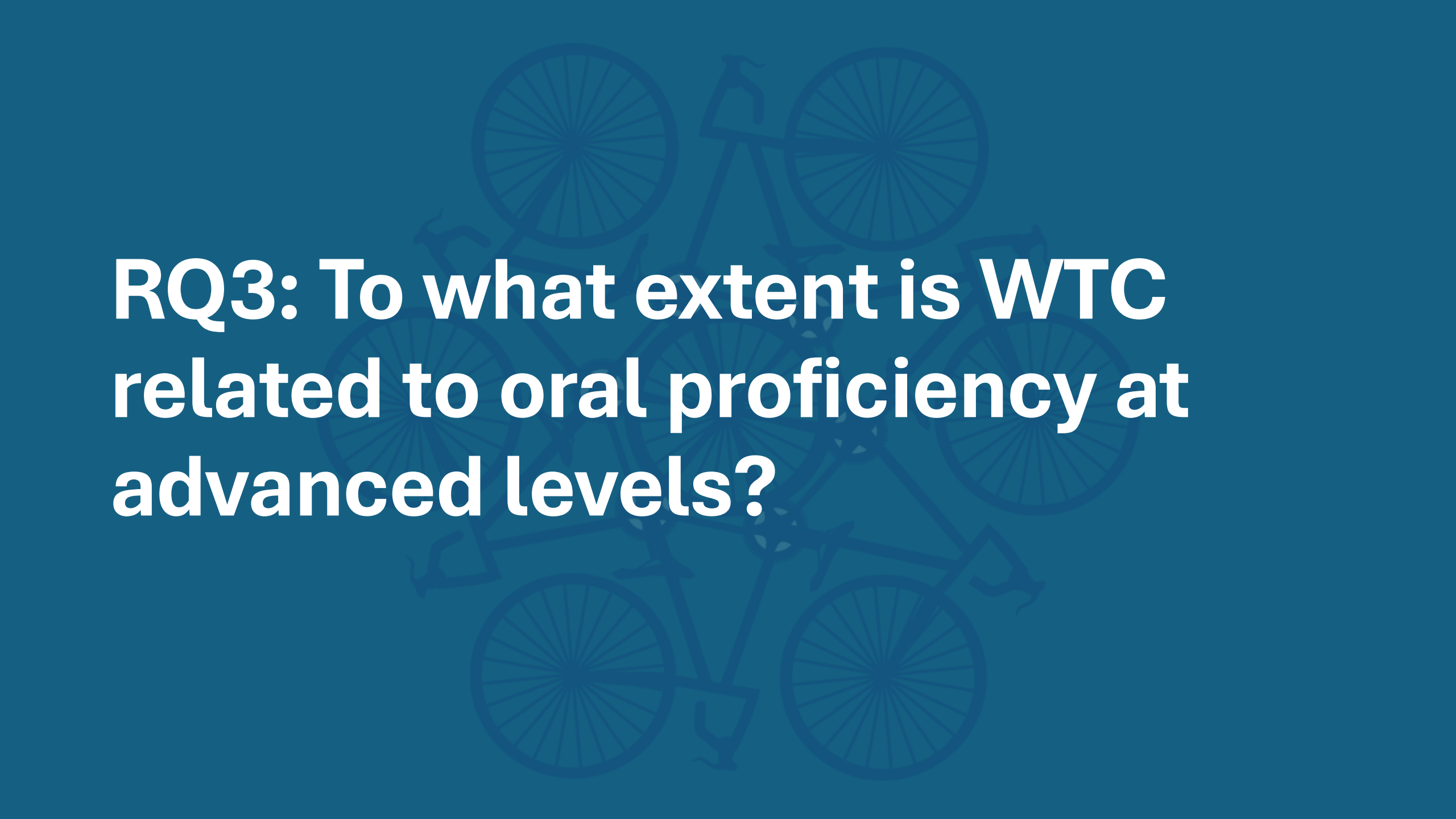
Four distinct but related factors:

- Home | Online | School | Abroad
- Moderate model fit (**CFI = .87**)
- Factor correlations < 1.0

Contexts are related—but not identical

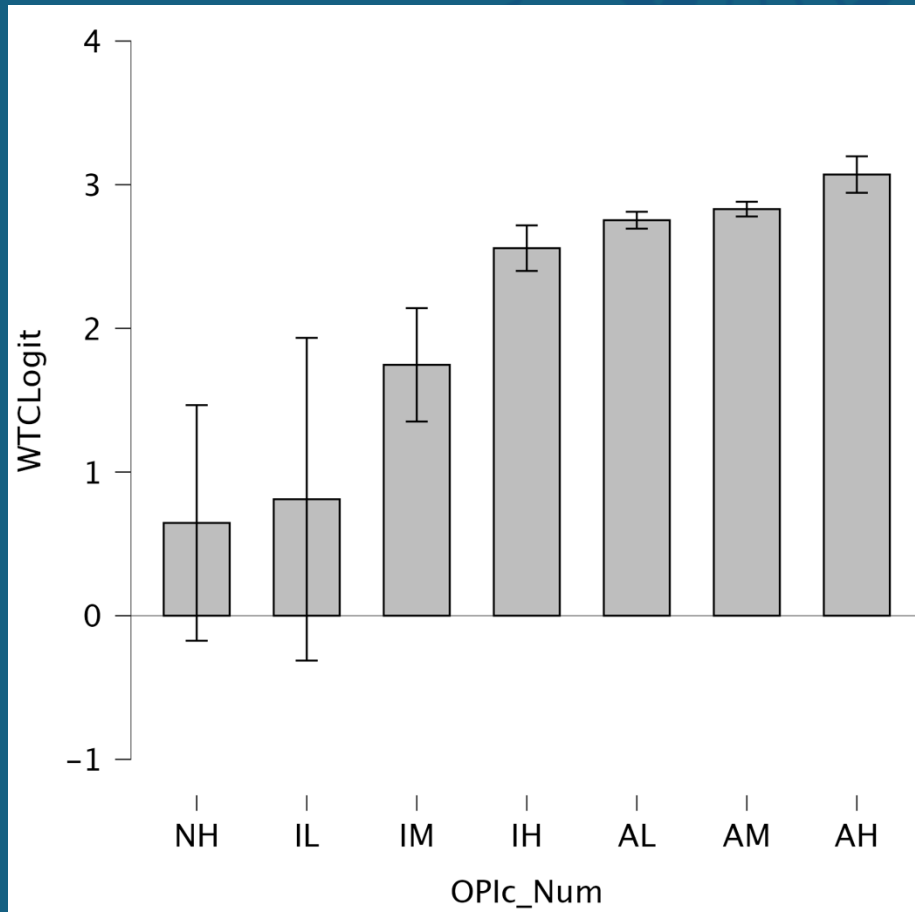
RQ2: Is WTC a unified construct, or does it vary across communication contexts?

- **WTC is not a single unified construct**
- It varies meaningfully across communication contexts

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**RQ3: To what extent is WTC
related to oral proficiency at
advanced levels?**

WTC increases significantly across proficiency levels

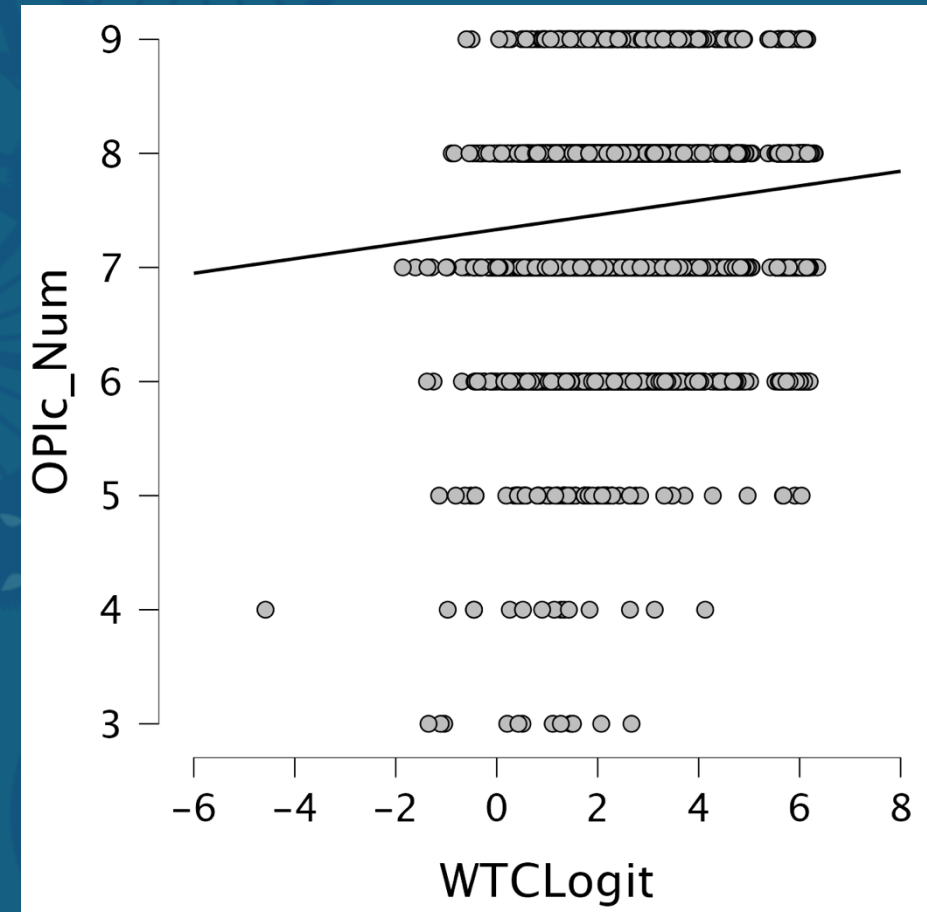


Proficiency Level	Mean WTC (Logits)
NH	0.65
IL	0.81
IM	1.75
IH	2.56
AL	2.75
AM	2.83
AH	3.07

($F(6, 6149) = 20.17, p < .001, \omega^2 = .018$) with the only significant adjacent difference IM & IH ($\Delta = .81, p < .001$).

However, the relationship is small

$$r = .11, p < .001$$

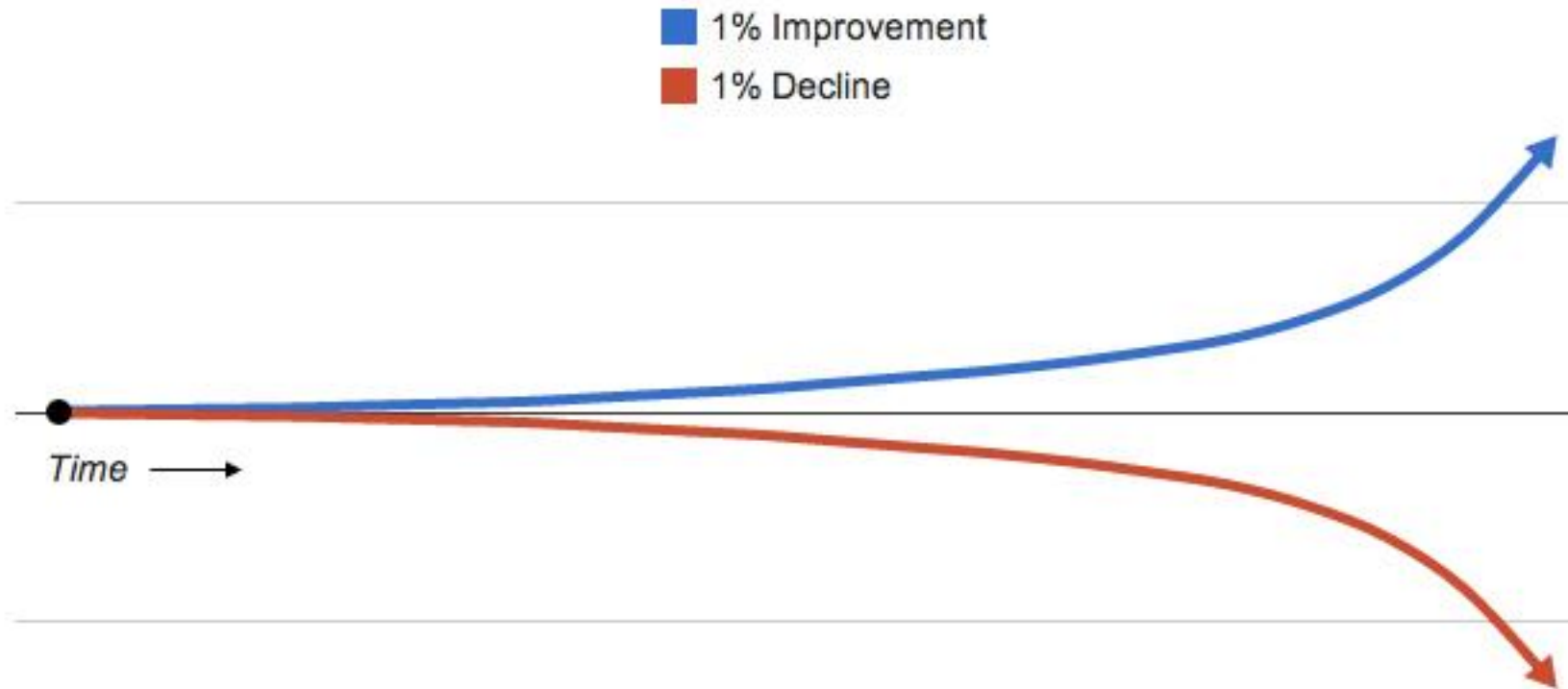


The British Cycling Team and David Brailsford

- Pioneered the "marginal gains" philosophy: Focused on making 1% improvements in every area—nutrition, equipment, sleep, mindset, and more—leading to cumulative performance boosts.
- Developed a high-performance culture: Implemented data-driven training, **personalized** athlete support, and an obsession with excellence in small details (e.g., optimized pillows, handwashing protocols, travel habits).



Aggregation of Marginal Gains



Aggregation of Marginal Gains for Language Learning

- Perhaps there isn't a magic pill or magic bullet that makes the exceptional language learner
- A constellation of
 - Psychology traits
 - Metacognitive awareness

Conclusion

- Can WTC be reliably measured among advanced LOTE L2 learners?
 - Yes
- Is WTC a unified construct, or does it vary across communication contexts?
 - It varies
- To what extent is WTC related to oral proficiency for advanced LOTE learners?
 - Significant but only a small effect size

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Question?





◆ BISHOP'S BOWL



BADLANDS



TOMBSTONE



LOWER GRIZZLY RIDGE

What grade
would I earn
on my skiing
performance?
Does your
grading
system
reward risk-
taking and
failure?

