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Auditory-perceptual profile of FADO´s singing voice

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FADO

- *Fatum*: destino
- UNESCO

Mariza "Ó gente da minha terra"

Voz humana

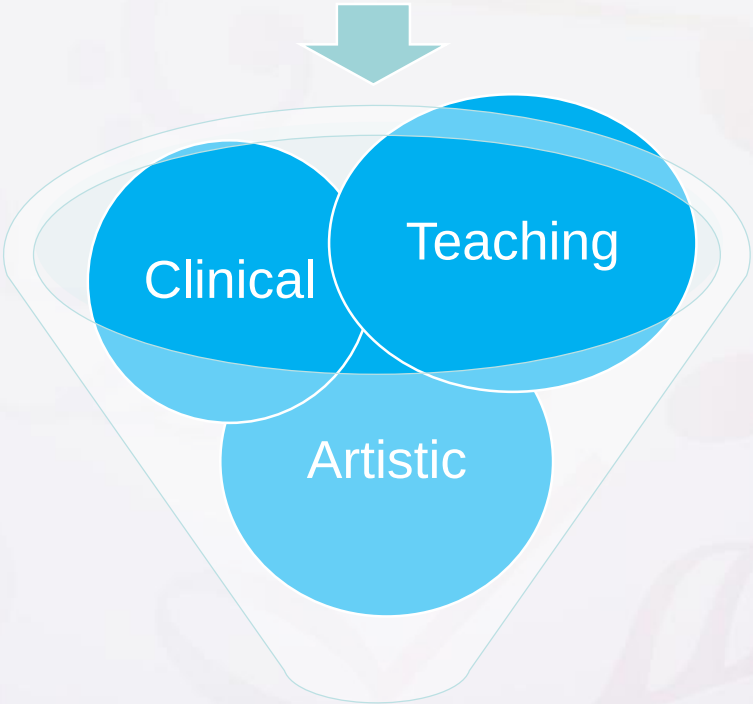
Guitarra portuguesa

Viola

FADO and fashion

Auditory-perception

Singing voice



Orlikoff et al., 1999

Objectives

1. Describe auditory-perceptual profile of Fado's voice.

2. Differences:
   - gender
   - professional experience
   - age

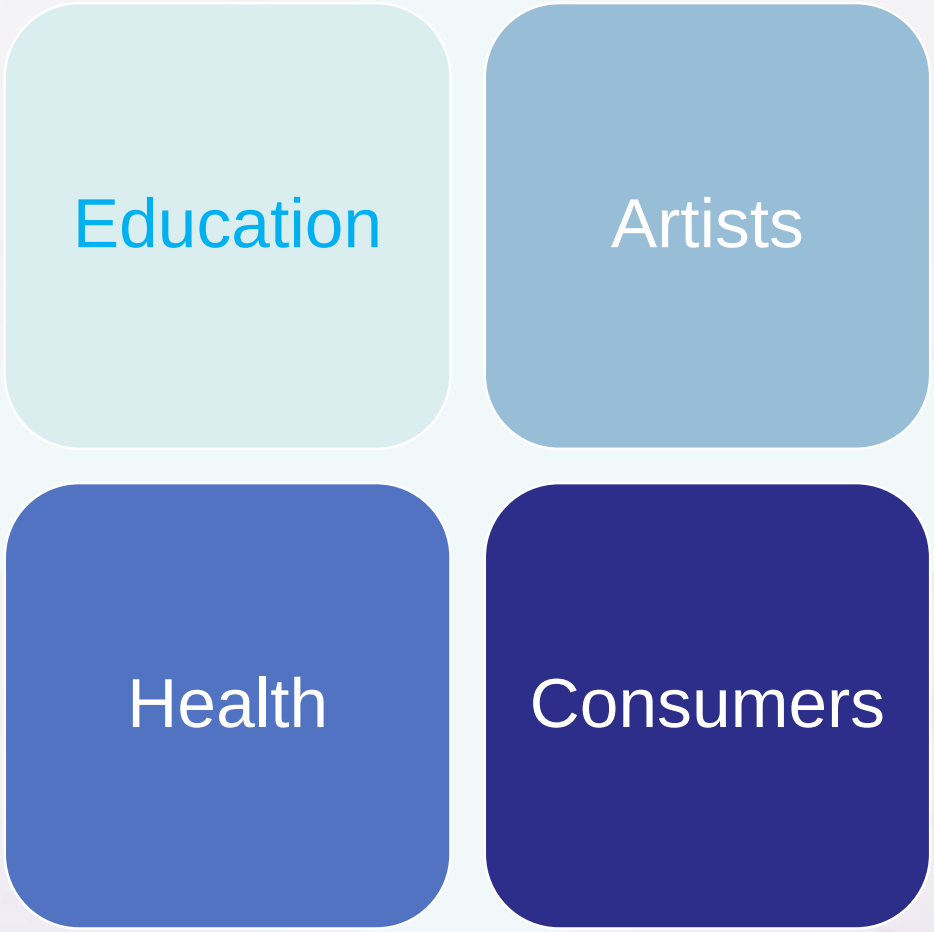
METHODS

Subjects: 40 listeners

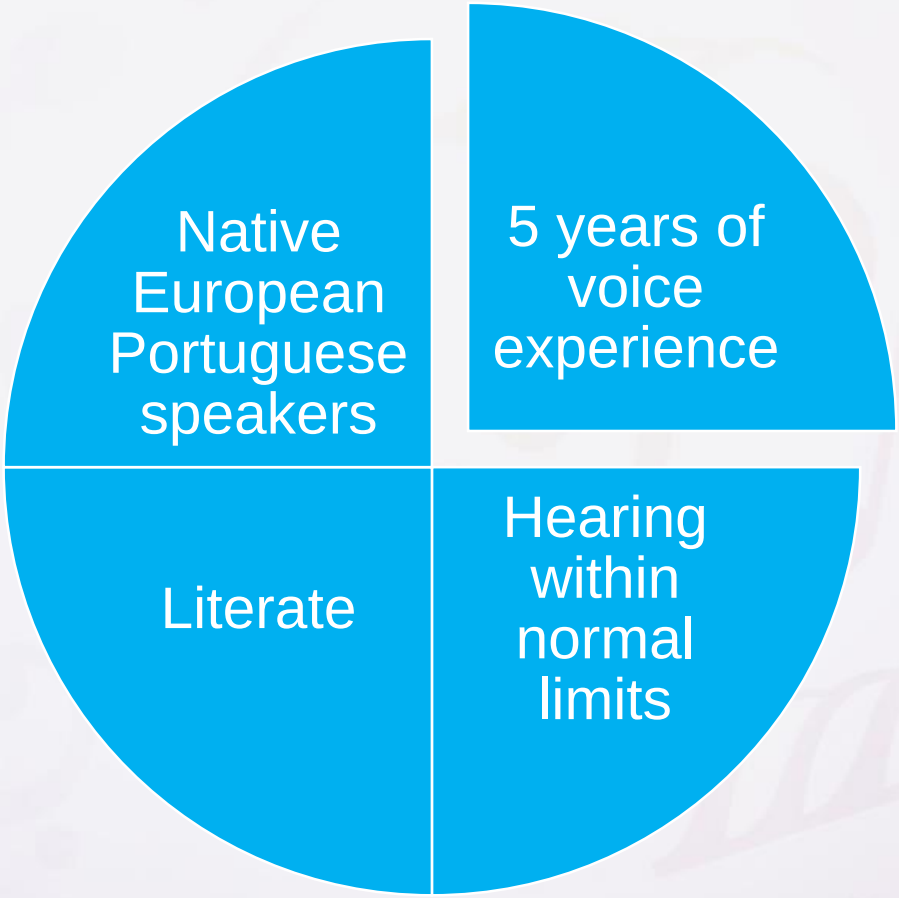
Judges	Gender	N	Age	Experience (yrs)
			$\bar{X}$	$\bar{X}$
ST	M	4	38	17
	F	6	53	30
SLT	M	2	33	9
	F	8	41	15
FS	M	3	39	24
	F	7	37	13
NL	M	3	30	0
	F	7	42	0
Total		40		

ST = singing teachers; SLT = speech and language therapist; FS = Fado singers'; NL = naive listeners; M = male; F = female.

4 groups ?



Listeners: inclusion criteria



Subjects: singers

Fado chorus: "Nem às paredes Confesso" (*Not even to the walls I confess).*

Gender	N	Professional experience	Age
			$\bar{X}$
M	5	A	43
	5	P	38
F	5	A	35
	5	P	29
Total	20		

M = male; F = female; A = amateur; P = professional.

Singers: inclusion criteria

1. Native European Portuguese (EP) speakers;
2. > 18 years;
3. No history of:
   - ✓Voice, speech, and/or language disorders;
   - ✓ Allergic and/or respiratory problems on recording day;
4. Literacy;
5. No knowledge and/or participation on a similar study

Amateurs vs. Professionals

- Payment for their performance
- Singing education ≥ 1 yr
- ENT exam 1x yr

Procedures for listeners subjects

Informed consent form
Questionnaire

Auditory screening (1, 2, 4 KHz a 25 dB)

Noise environment < 50 dB

Voice samples in an open field at 70 dB

Singing voice rating scale: EAVOCZ

Stimuli for voice samples

Portuguese (original)	English (translation)
“De quem eu gosto nem às paredes confesso. E até aposto que não gosto de ninguém. Podes sorrir, Podes mentir, Podes chorar também. De quem eu gosto nem às paredes confesso”.	Not even to the walls I confess to whom I love Moreover, I bet that I love no one You can laugh, You can lie, You can also cry Not even to the walls I confess to whom I love

20 stimuli

EAVOCZ

A.
- Pitch
- Loudness

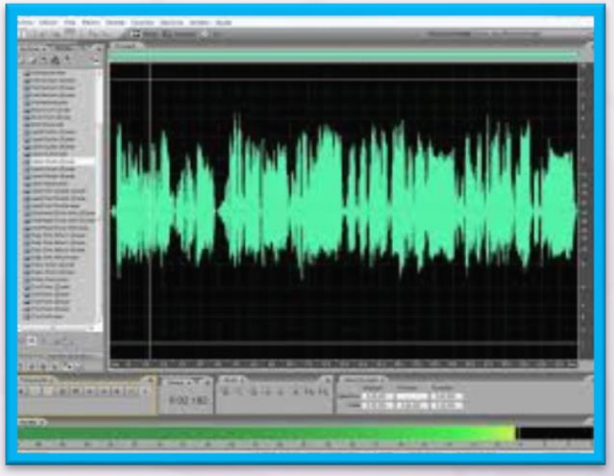
E
- Voice projection
- Vibrato
- Timbre
- Emotional expression
- Tuning
- Brilliance
- Global voice appreciation

B
- Resonance

C
- Phono-respiratory coordination
- Articulation

D
- Roughness
- Breathiness
- Tension
- Asthenia

Equipment for listeners



Equipment for singers

Statistic analysis

SPSS v.22

- Descriptive analysis
- Inferential statistics
  - Independent t-test α=.05

RESULTS

A-NOVA

No significant diferences:

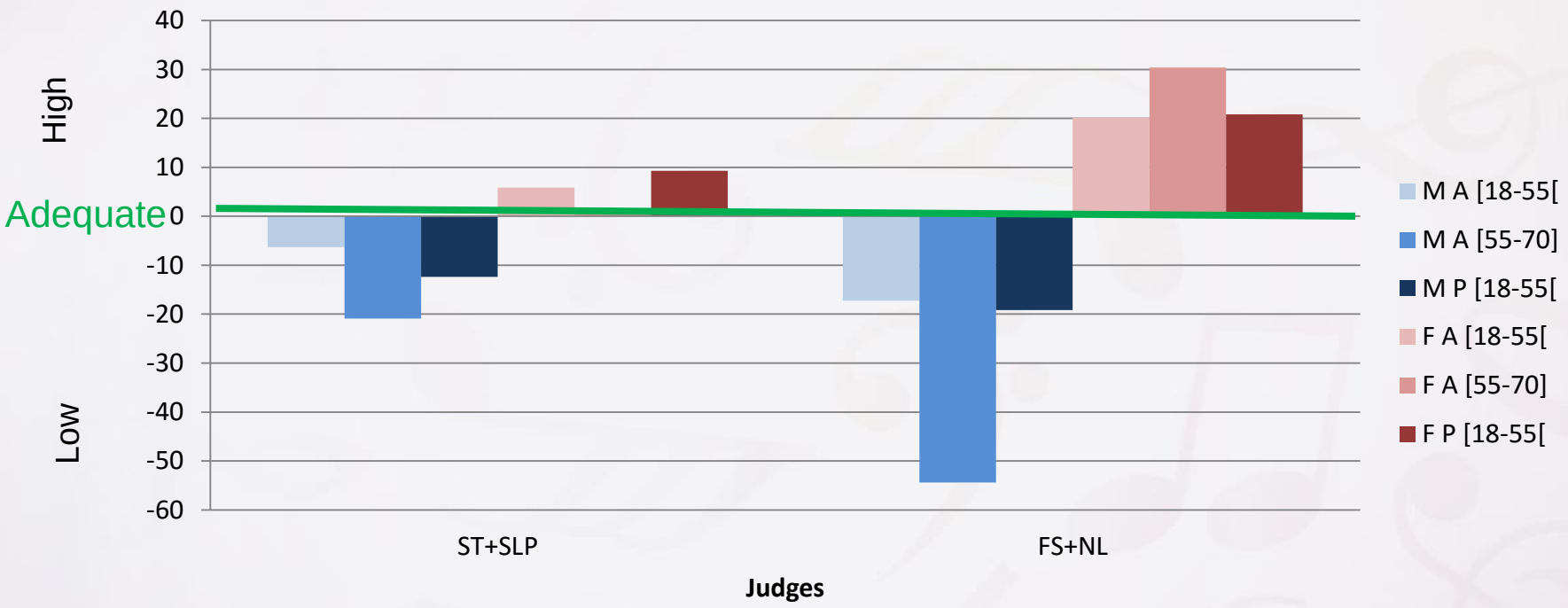
- ST vs. SLT
- FS vs. NL
- $p > .05$

% correct ANSWERS

Item		Singer's total	% of correct answers			
			ST	SLT	FS	NL
Gender	Male	10	100	97	100	99
	Female	10	100	100	100	99
Age range	<18	0	-	-	-	-
	[18-55[	18	70	72	78	53
	[55-70]	2	70	60	55	50
	>70	0	-	-	-	-
Professional experience	Amateur	10	59	70	80	70
	Professional	10	52	46	37	30

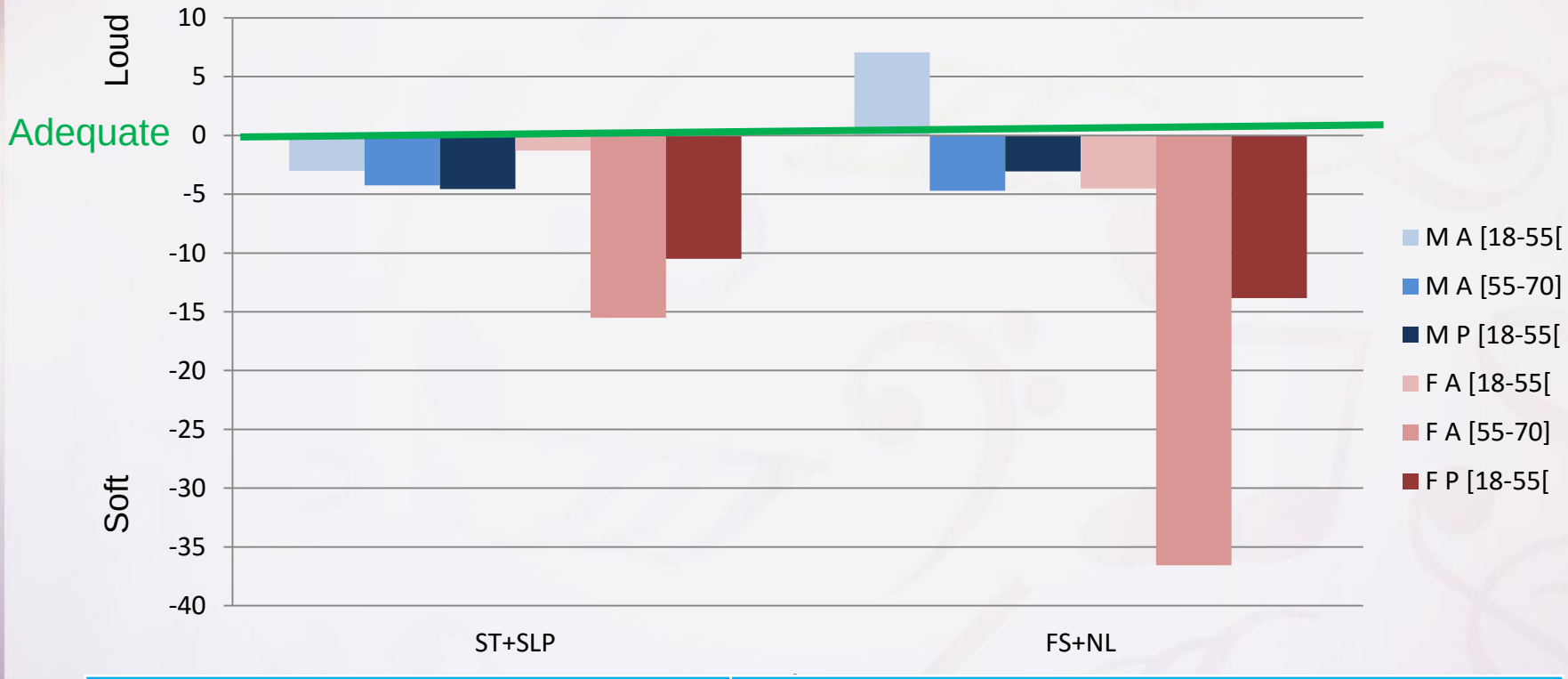
ST=singing teacher; SLT= speech and language therapist; FS=Fado singer; NL=naive listener

A. Pitch



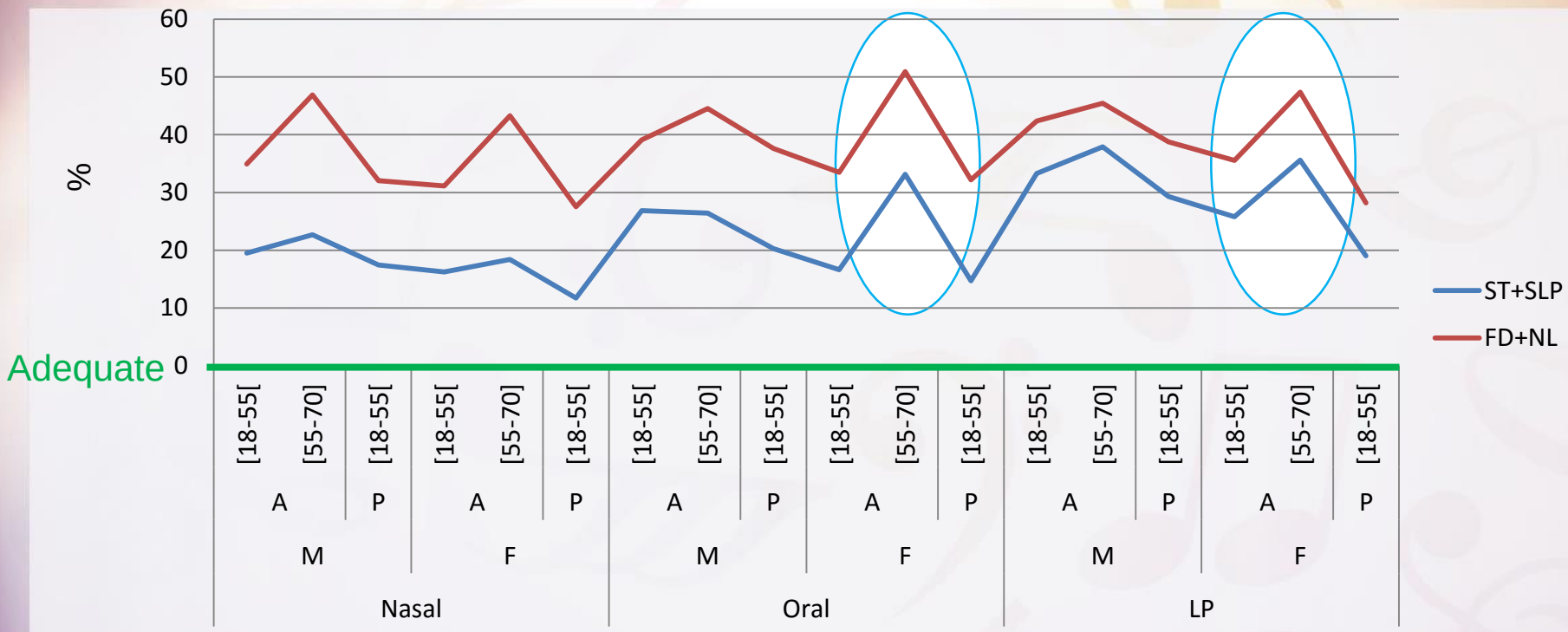
ST+SLT	FS+NL
Male < female (*p*=.00) Male amateur younger > older (*p*=.04)	Male < female (*p*=.00) Male amateur younger > older (*p*=.00)

A. Loudness



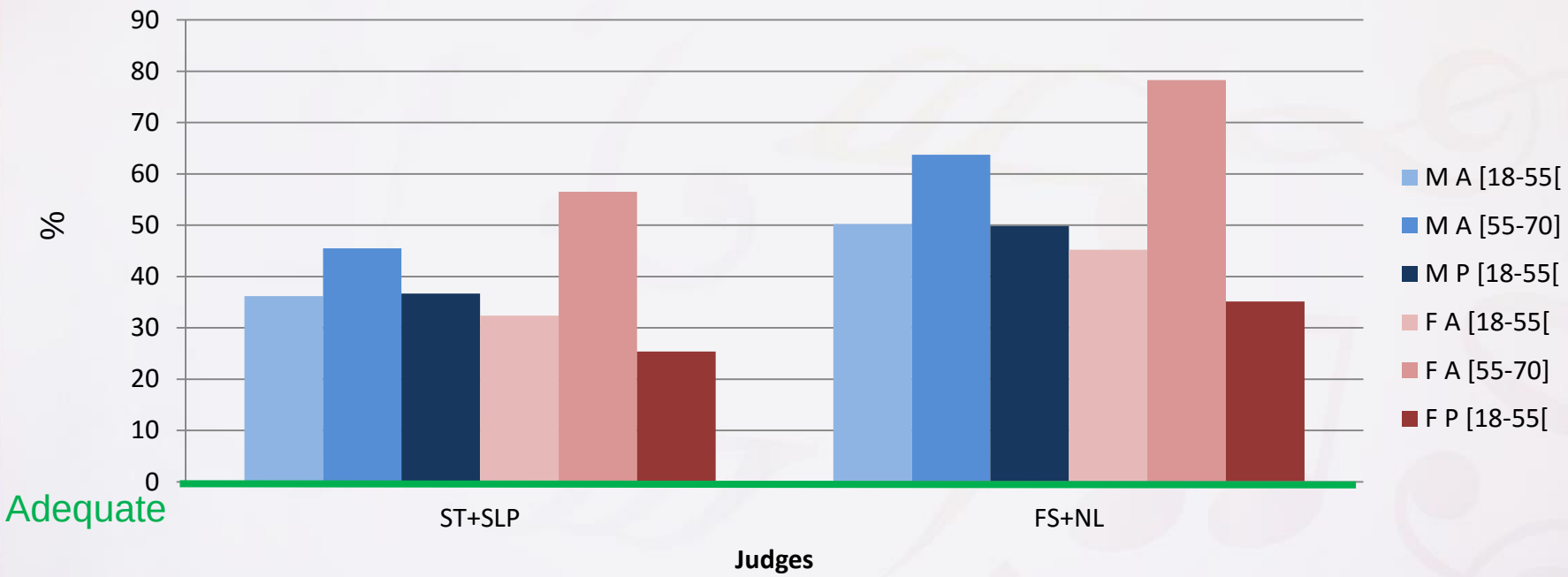
ST+SLT	FS+NL
	Male > female (*p*=.00) Female amateur younger > older (*p*=.01)

B. Resonance



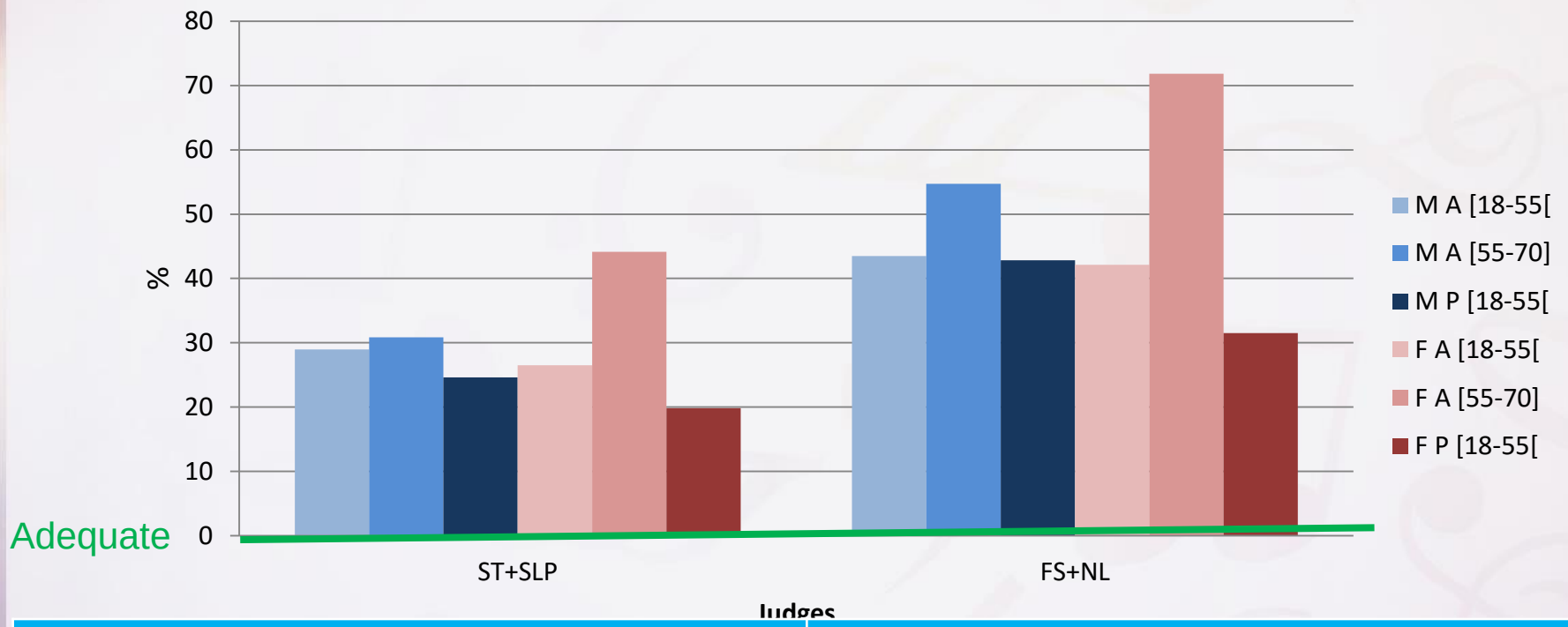
ST+SLT	FS+NL
Male > female (p_{oral}= .00; p_{LP}=.00) Female amateur > professional (p_{LP}=.02) Female amateur younger < older (p_{oral}=.03)	Male > female (p_{LP}=.01) Female amateur > professional (p_{LP}=.02) Female amateur younger < older (p_{oral}=.02)

C. Phono-respiratory coordination



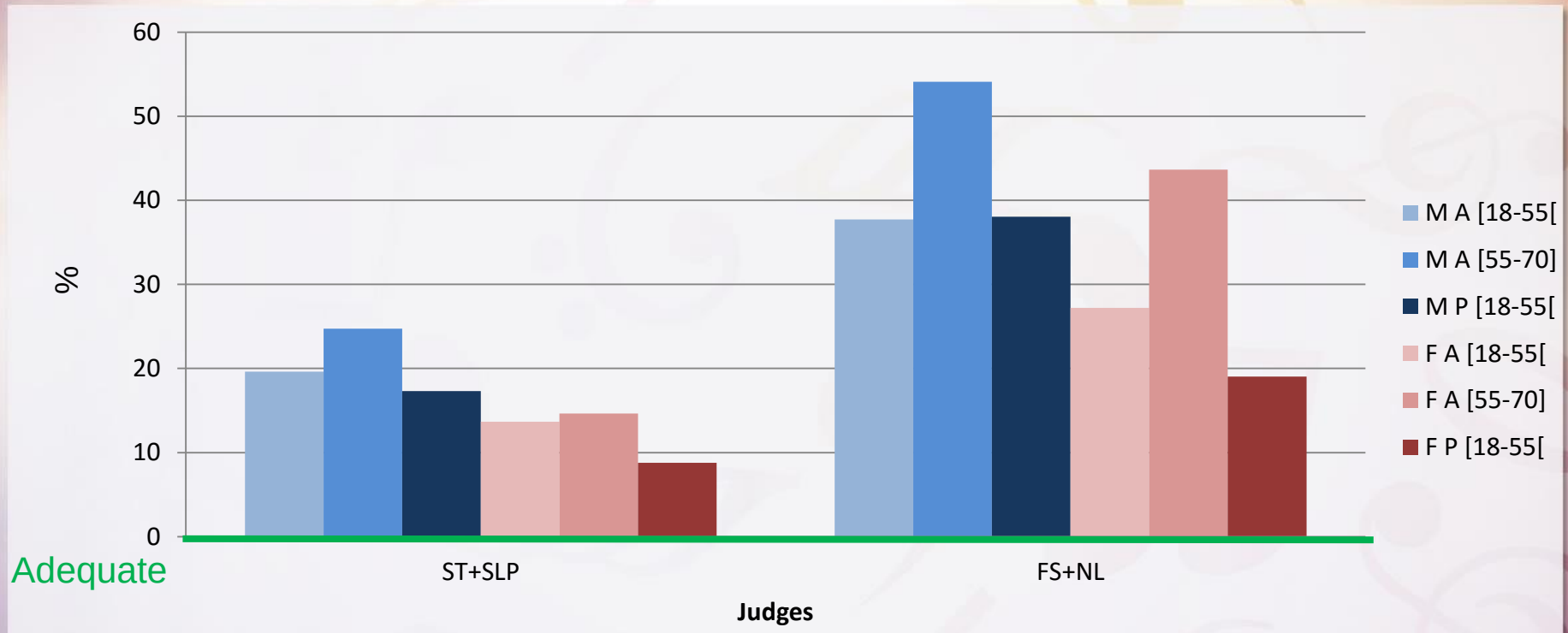
ST+SLT	FS+NL
Male > female (*p*=.02) Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)	Male > female (*p*=.01) Female amateur > professional (*p*=.00) Male amateur younger < older (*p*=.04) Female amateur younger < older (*p*=.00)

C. Articulation



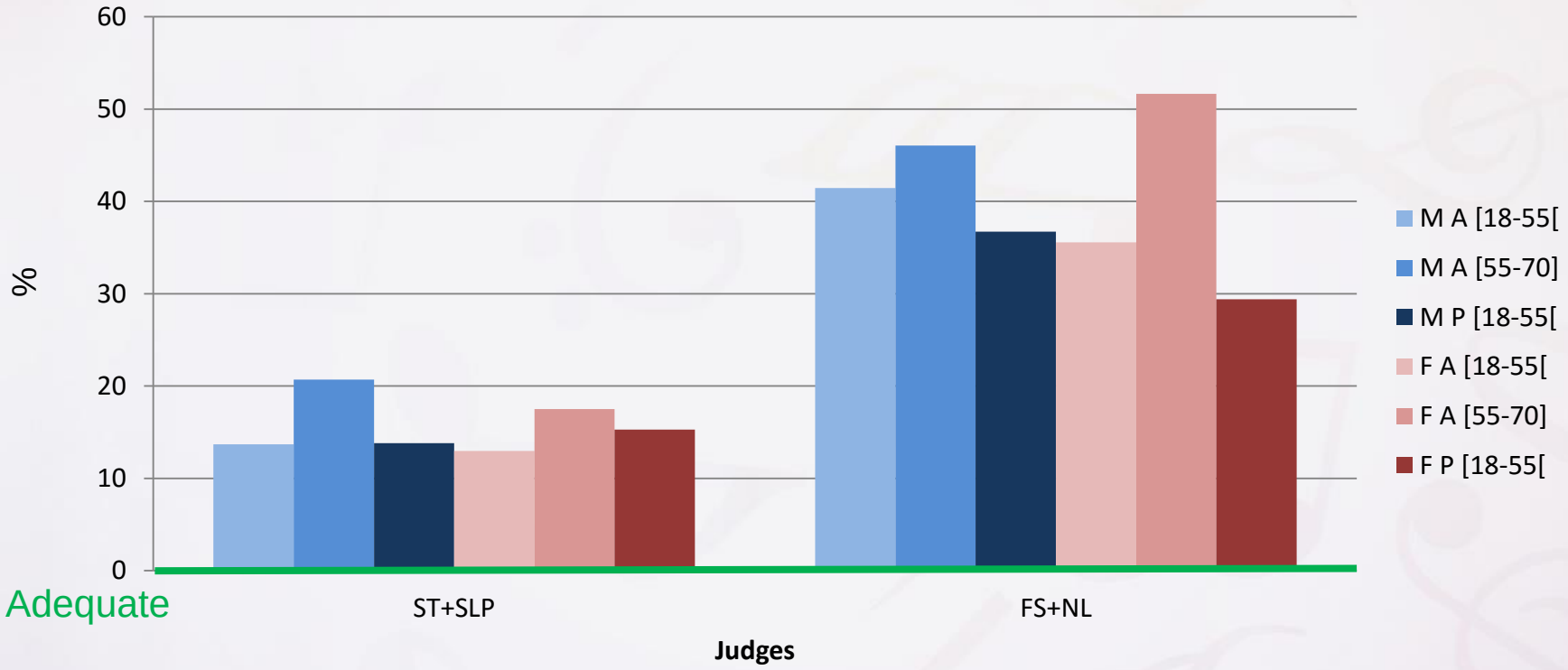
ST+SLT	FS+NL
Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)	Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)

D. Roughness



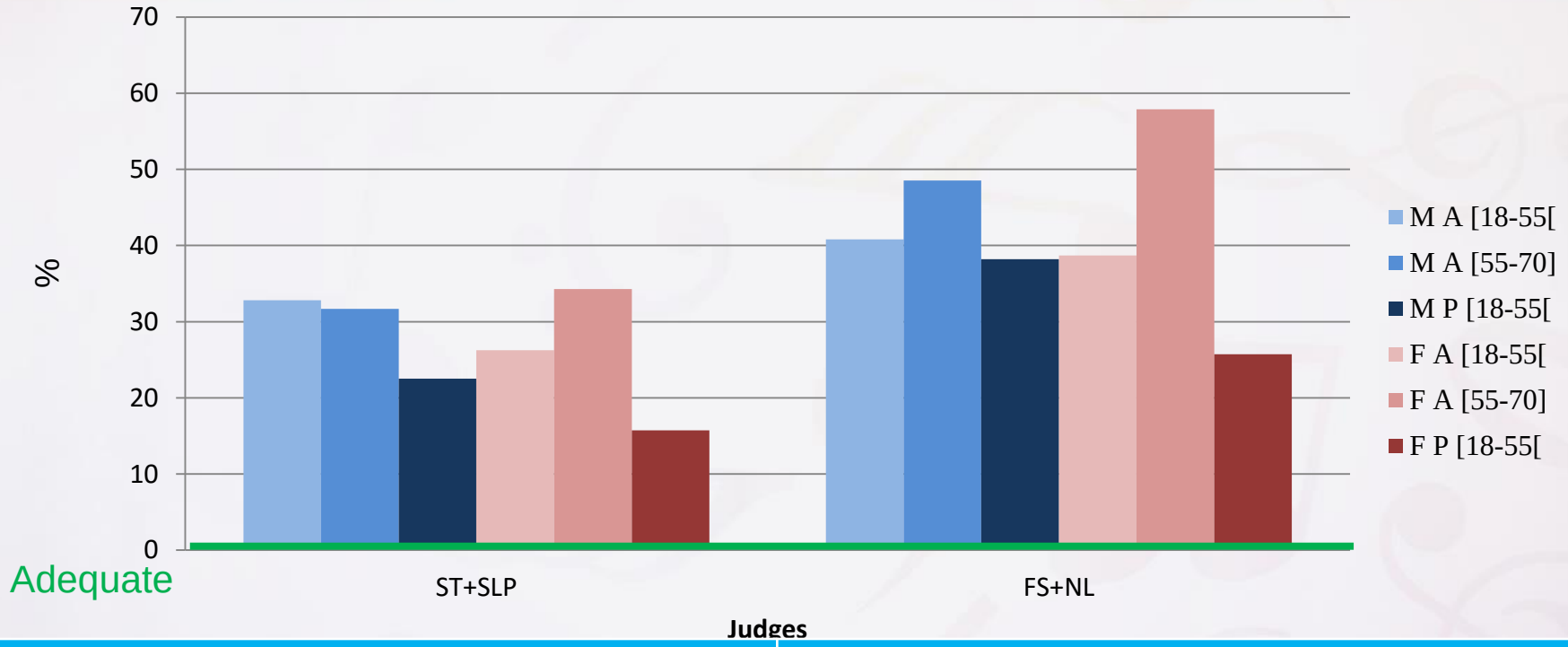
ST+SLT	FS+NL
Male > female (*p*=.00) Female amateur > professional (*p*=.02)	Male > female (*p*=.00) Female amateur > professional (*p*=.00) Male amateur younger < older (*p*=.02)

D. Breathiness



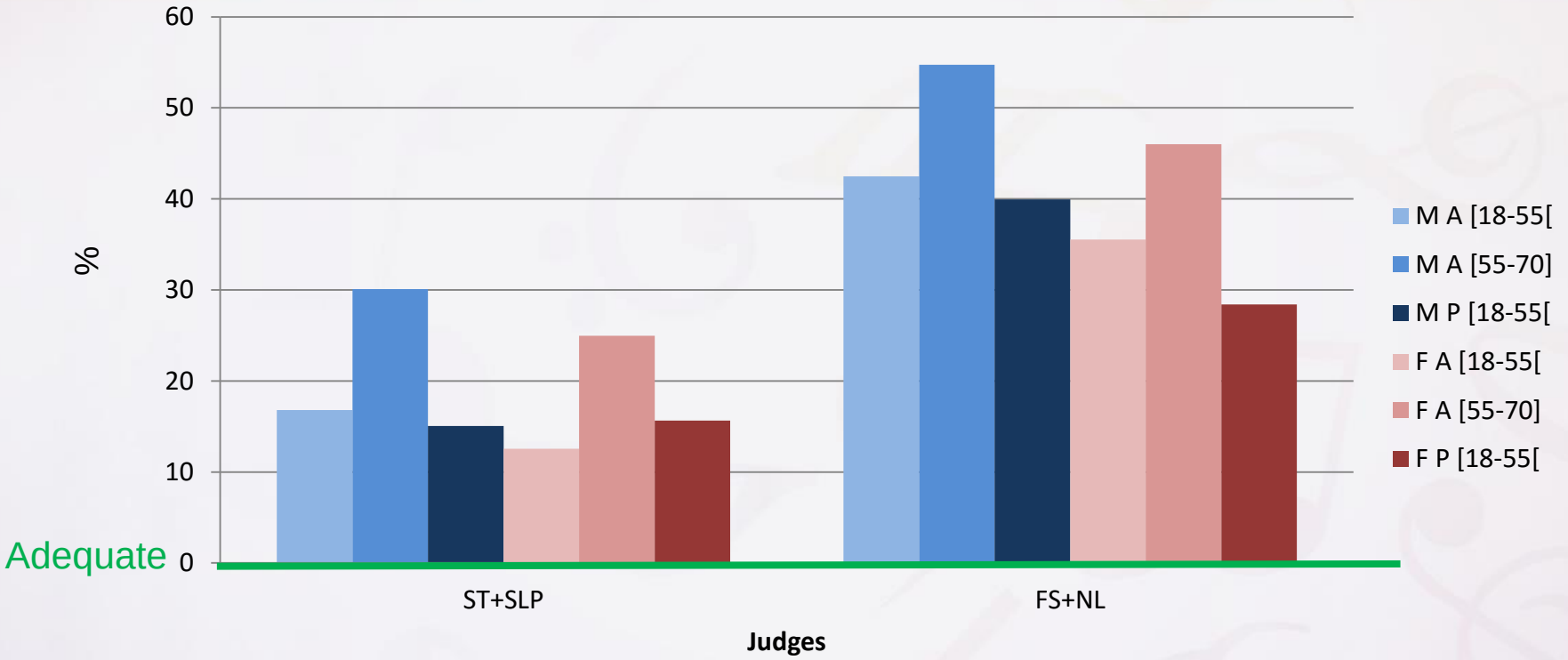
ST+SLT	FS+NL
	Female amateur > professional (*p*=.03)

D. Tension



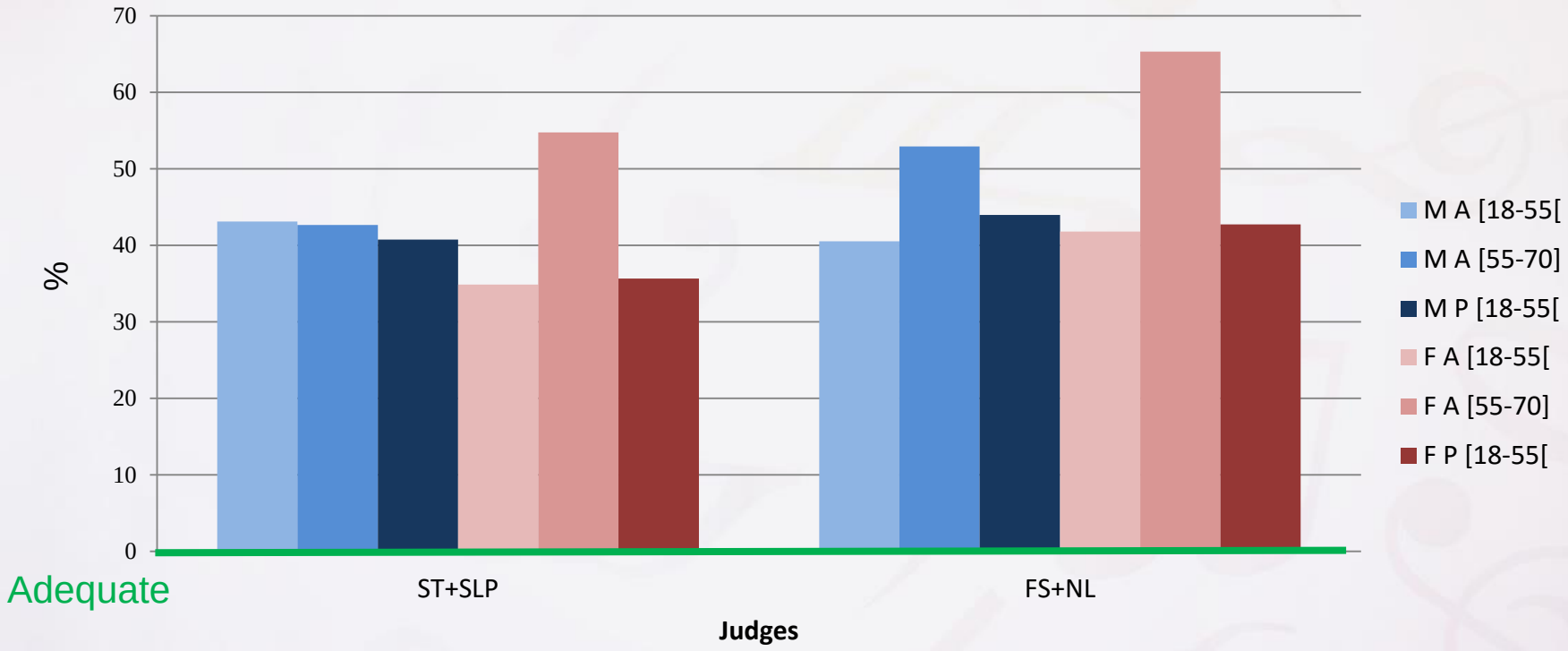
ST+SLT	FS+NL
Male > female (p=.02) Amateur > professional (p_{male}=.01; p_{female}=.00)	Male > female (p=.03) Female amateur > professional (p=.00) Female amateur younger < professional (p=.02)

D. Asthenia



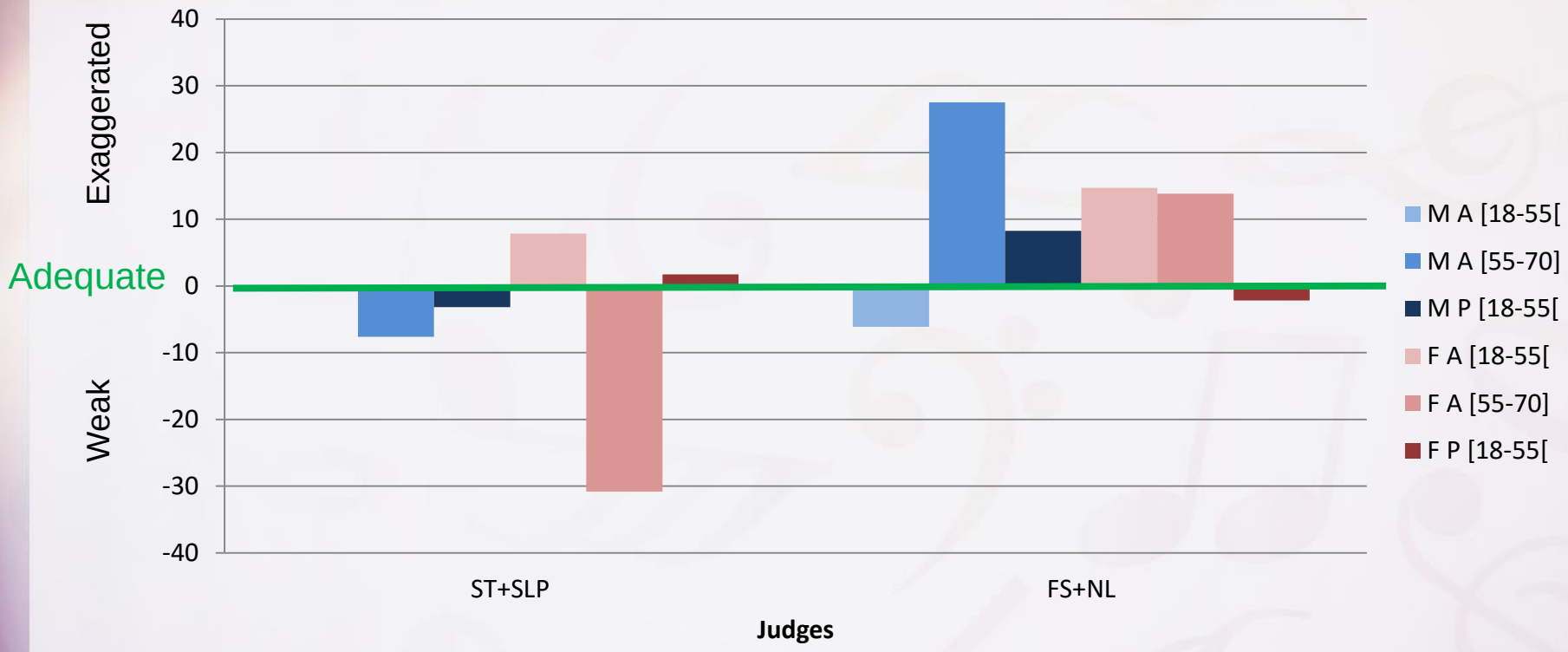
ST+SLT	FS+NL
	Male > female (*p*=.00) Female amateur > professional (*p*=.03)

E. Voice projection



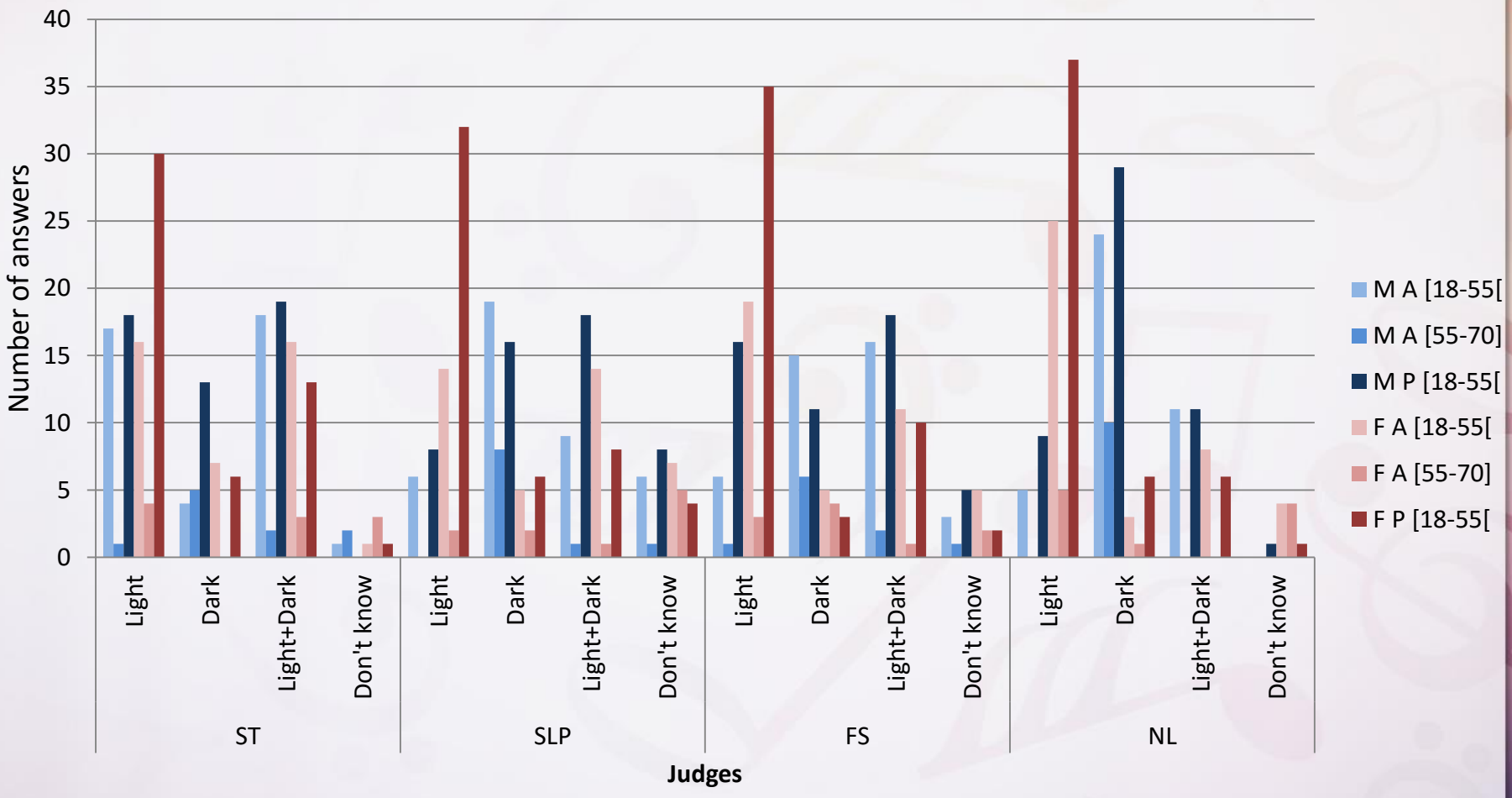
ST+SLT	FS+NL
Female amateur younger < older (*p*=.00)	Female amateur younger < older (*p*=.00)

E. Vibrato

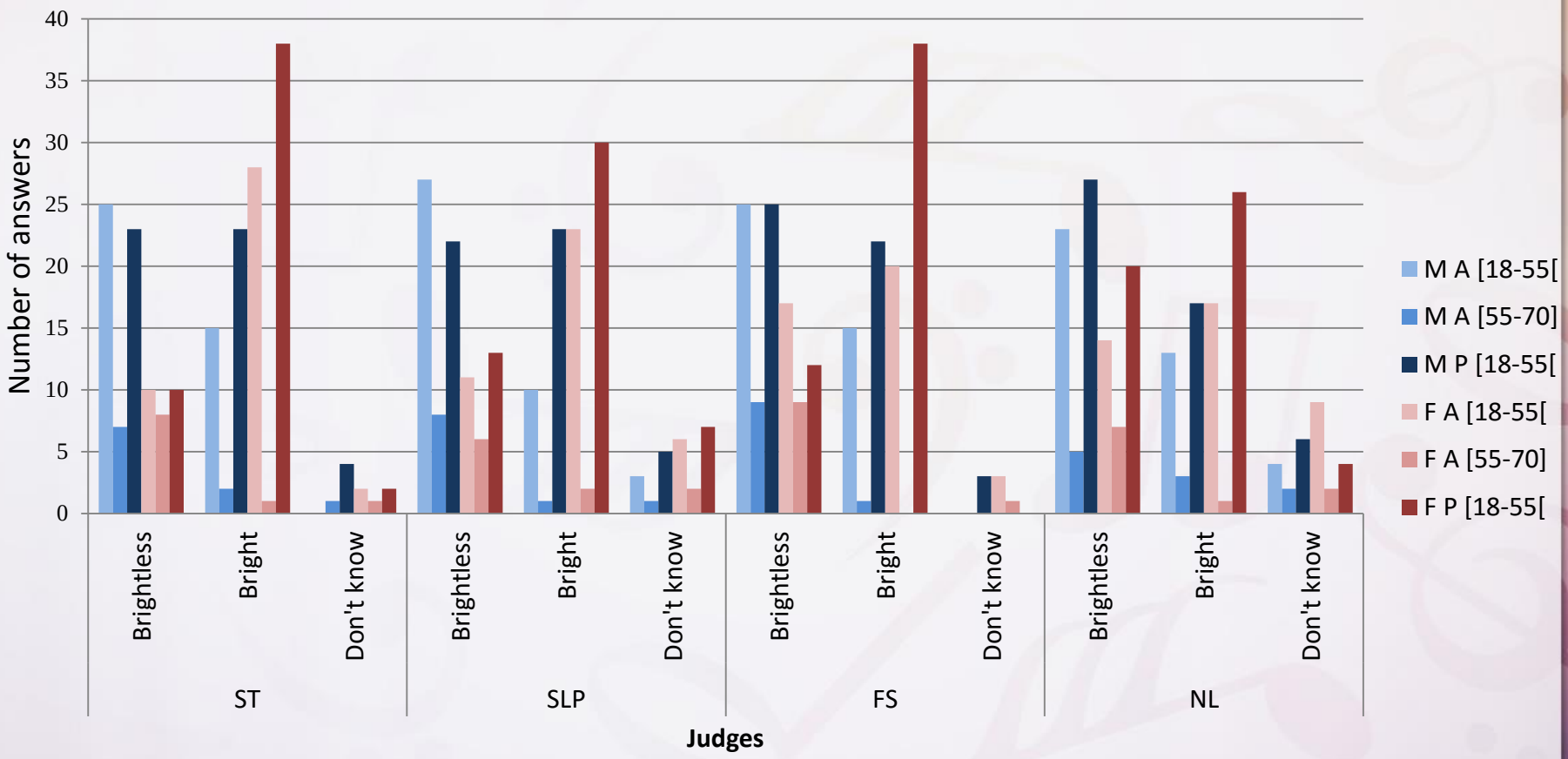


ST+SLT	FS+NL
	Female amateur > professional (*p*=.02) Male amateur younger < older (*p*=.03)

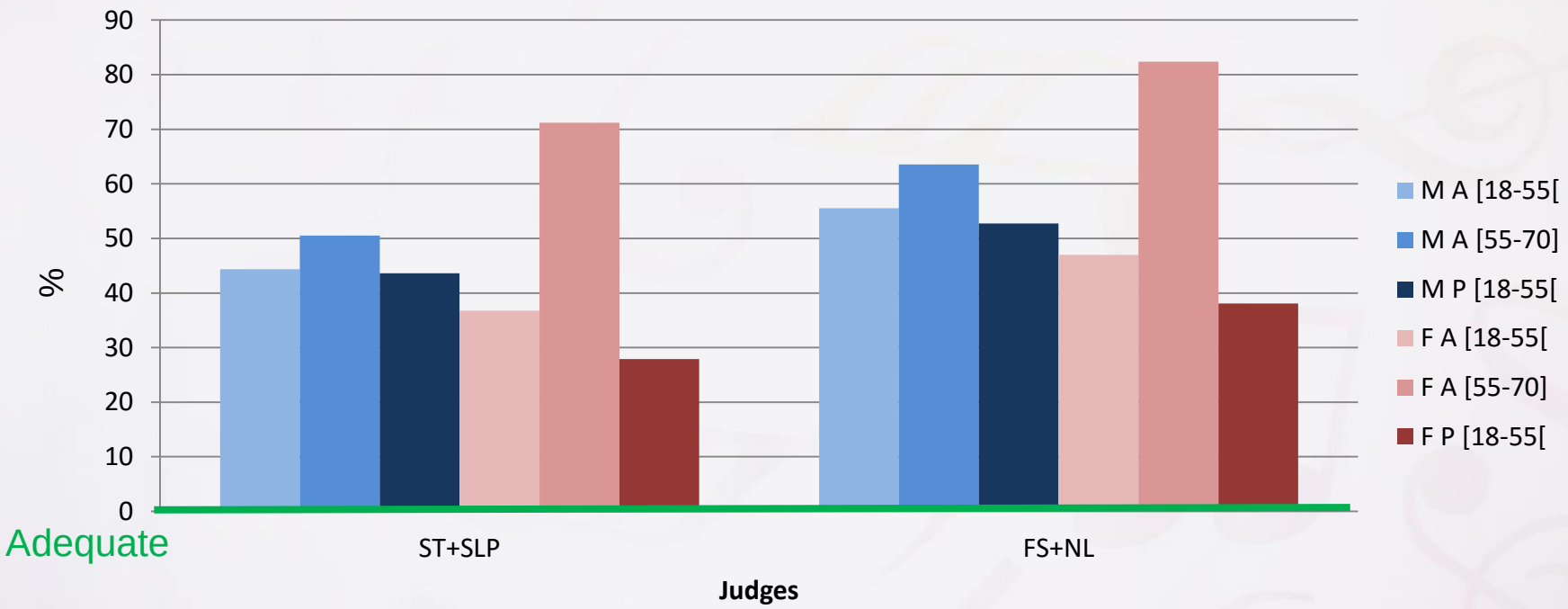
E. Timbre



E. Brilliance

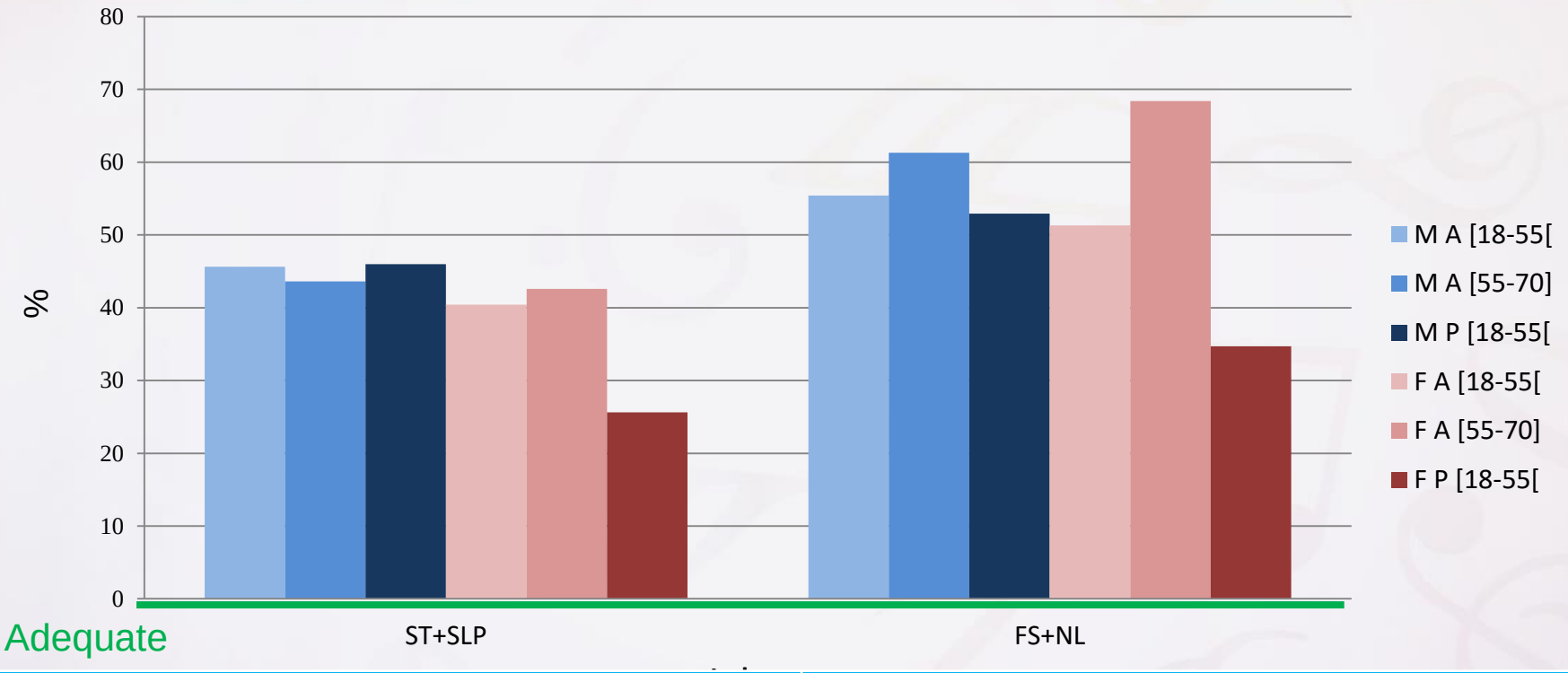


E. Emotional expression



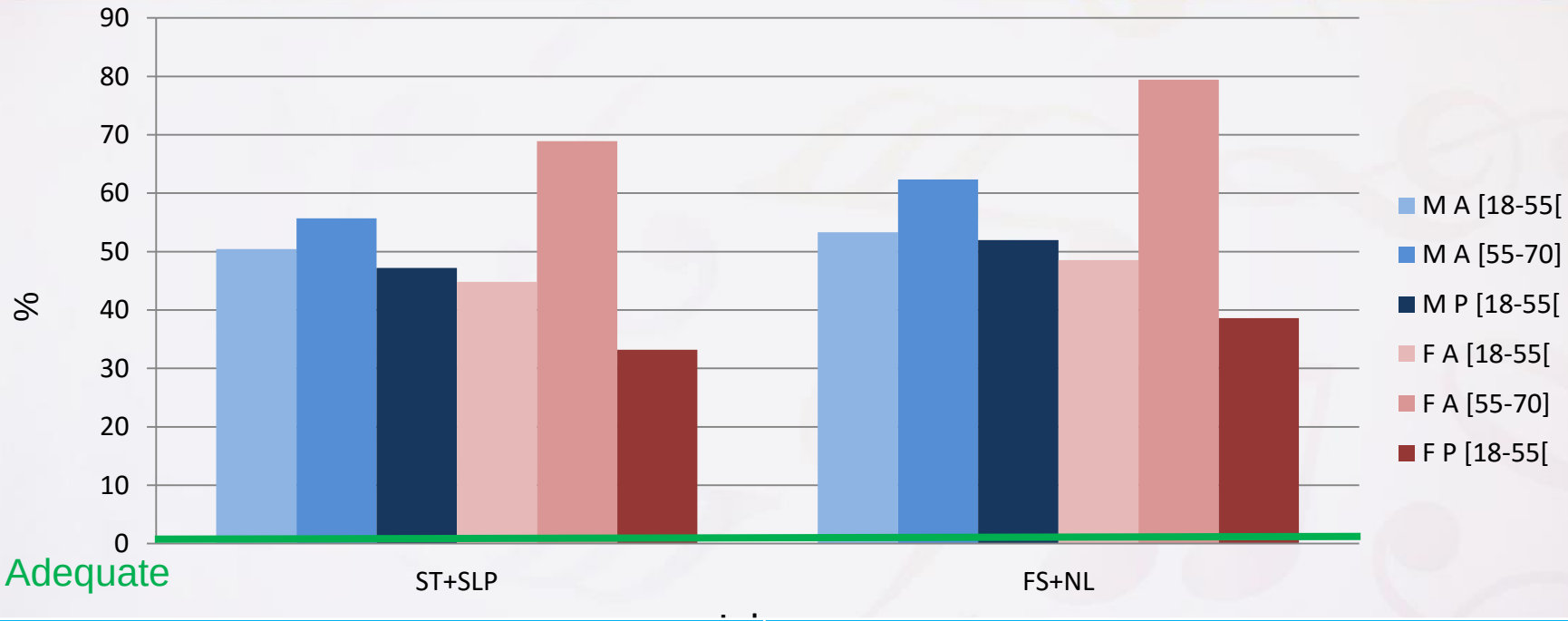
ST+SLT	FS+NL
Male < female (*p*=.00) Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)	Male > female (*p*=.00) Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)

E. Tuning



ST+SLT	FS+NL
Male > female (*p*=.00) Female amateur > professional (*p*=.00)	Male > female (*p*=.00) Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.02)

E. Global appreciation



ST+SLT	FS+NL
Male > female (*p*=.00) Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)	Male > female (*p*=.00) Female amateur > professional (*p*=.00) Female amateur younger < older (*p*=.00)

Conclusion

AP profile – FADO's voice

- **Low** pitch, **weak** loudness
- **Oral** and **laryngopharyngeal** resonance,
- **Adequate** phono-respiratory coordination and articulation
- Vocal quality: **rough, breathy, tense and asthenic**
- **Weak** or **exaggerated** vibrato
- **Absence** of voice projection
- **Dark** timber (♂) and **light** (♀) and **no** brillance
- With emotional expression and semi-tunned voices
- Semi-overall appreciation: FA

Future research

- Study the acoustic environment characteristics of Fado performance houses to improve singers' professional conditions.

References

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PATRIMÓNIO DA HUMANIDADE

FADO

HERITAGE OF HUMANITY

THANK YOU!!!
Obrigada!

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