

TOMATIS Burnout & Stress Rehabilitation

Results and Statistical Analysis for 100 Clients

Maria Lundqvist
President, Tomatis Nordiska AB
Stockholm, Sweden

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Maria Lundqvist



- President and founder of Tomatis Nordiska, Sweden, in 1998
- Married to Fredrik Moëll
- Two sons aged 18 and 20
- Master of Science in Engineering Physics
- 18 years experience in software and management with IBM and Ericsson
- Original founding member of IARCTC

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Presentation Outline

- Participants
- Training program
- Questionnaires
- Results
- Experiences
- Our team

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Participants

- **Client data:**
100 clients pre/post
83 clients pre/post/follow-up
- **Inclusion criteria:**
All clients since 2003 to date
 ≥ 20 Maastricht VE or
 ≥ 4 SMBQ
- **M/F:** 70% women, 30% men
- **Background:** mainly professionals with stable family situation
- **Diagnoses:** burnout, stress, insomnia, post traumatic stress, depression; also stroke, whiplash, brain trauma



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Training Program

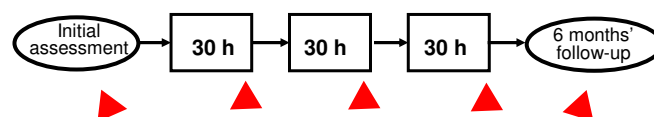
- **Listening program:**
60 to 120 hours
in 2, 3 or 4 intensives
- **Average length:** 90 hours
- **Voice:** 30% of clients
attended CAV course
- **Program duration:** 4 to 6 months
- **Follow-up:** After 6 to 8 months



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Questionnaires Used



1. Karolinska Sleep Questionnaire
2. Shirom-Melamed Burnout Questionnaire
3. Maastricht Vital Exhaustion Index

These are standardized and available in several languages

4. Tomatis Nordiska Questionnaire (our own)

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Karolinska Sleep Questionnaire

KSQ measures sleep quality, awakening, and tiredness during the day

- 11 questions, range from 1="Never" to 6="Always"
- Sub-scales: *Sleep Quality, Awakening, Tiredness*
- Calculate average answer for each sub-scale

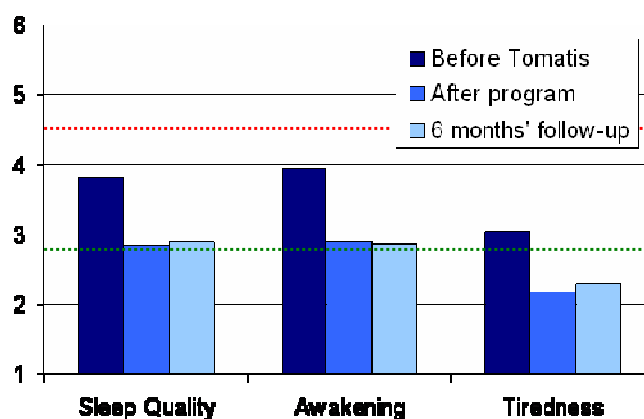
Do you have difficulties falling asleep?	1	2	3	4	5	6
Do you wake up too early?	1	2	3	4	5	6

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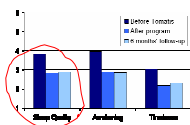
Karolinska Sleep Questionnaire

Mean Values



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Karolinska Sleep Questionnaire

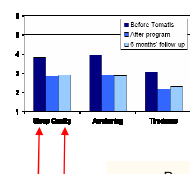
Basic Statistics (Statistica Software)

T-test for Dependent Samples. Marked differences are significant at $p < ,00001$

	Mean	Std.Dv.	N	Diff.	Std.Dv. Diff.	t	df	p
KSQ Sleep Quality Before Tomatis	3,798016	1,085350						
KSQ Sleep Quality After Program	2,841837	1,061503	98	0,956179	0,972632	9,732034	97	0,000000

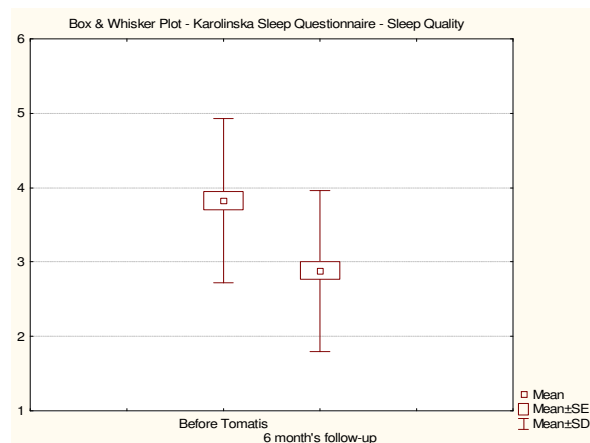
KSQ Sleep Quality Before Tomatis	3,829698	1,100644						
KSQ Sleep Quality 6 Months' Follow-up	2,882716	1,079704	81	0,946982	0,860244	9,907465	80	0,000000

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Karolinska Sleep Questionnaire

Box & Whisker Plot – Sleep Quality Index
Mean, Mean±SE, Mean±SD



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Shirom-Melamed Burnout Questionnaire

SMBQ measures different factors of burnout syndrome

- 22 questions, range from 1="Never" to 7="Always"
- Sub-scales: *Burnout*, *Listlessness*, *Tension*, *Cognitive Weariness*, *Global* (=all questions)
- Calculate average answer for each sub-scale

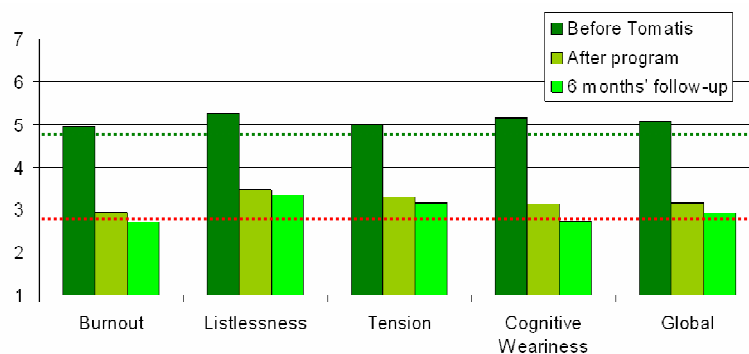
I feel physically exhausted	1	2	3	4	5	6	7
I feel tense	1	2	3	4	5	6	7
I am too tired to think	1	2	3	4	5	6	7

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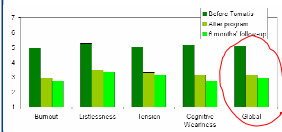
Shirom Melamed Burnout Questionnaire

Mean Values



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Shirom Melamed Burnout Questionnaire

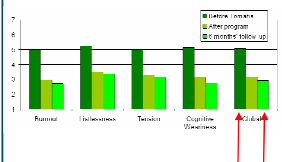
Basic Statistics (Statistica Software)

T-test for Dependent Samples. Marked differences are significant at $p < ,00001$

	Mean	Std.Dv.	N	Diff.	Std.Dv. Diff.	t	df	p
SMBQ Global Before Tomatis	5,063823	0,773305						
SMBQ Global After Program	3,151522	1,153174	100	1,912301	0,981573	19,48201	99	0,00

SMBQ Global Before Tomatis	5,063148	0,751942						
SMBQ Global 6 Months' Follow-up	2,898681	1,017667	84	2,164467	0,964159	20,57511	83	0,00

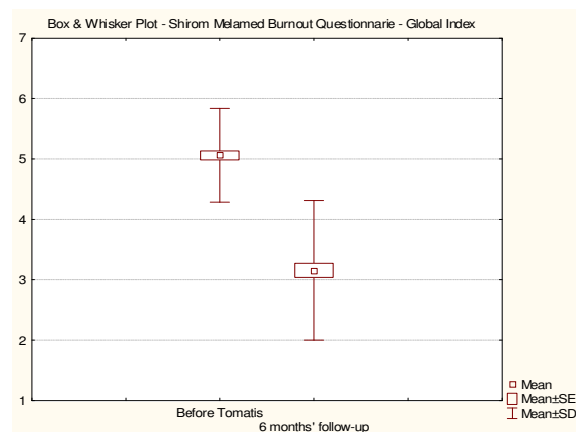
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Shirom Melamed Burnout Questionnaire

Box & Whisker Plot – Global Index

Mean, Mean $\pm$ SE, Mean $\pm$ SD



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Maastricht Vital Exhaustion Index

VE measures "life exhaustion", a marker of longstanding stress characterized by excessive fatigue, lack of energy, increased irritability, demoralization and depression

- ≈23 questions: "Yes"=2, "No"=0, "Don't know"=1
- Add points

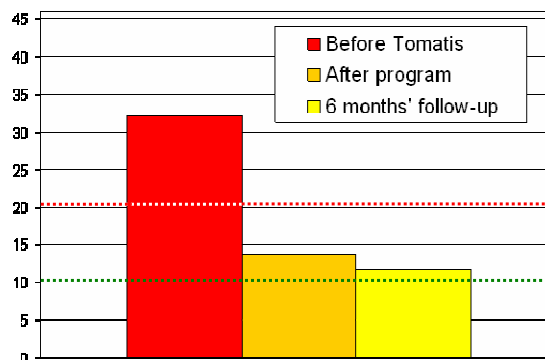
Are you often tired?	☒ Yes	☐ No	☐ Don't know
Do you feel like giving up?	☐ Yes	☒ No	☐ Don't know
Have small problems irritated you more lately?	☒ Yes	☐ No	☐ Don't know

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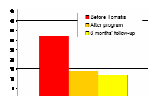
Maastricht Vital Exhaustion Index

Mean Values



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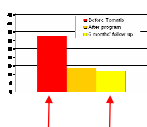
Maastricht Vital Exhaustion Index

Basic Statistics (Statistica Software)

T-test for Dependent Samples. Marked differences are significant at $p < ,00001$

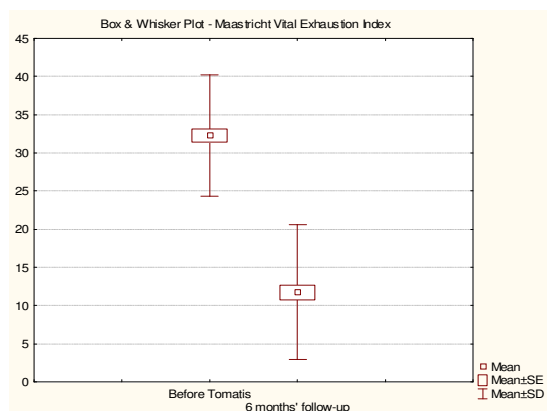
	Mean	Std.Dv.	N	Diff.	Std.Dv. Diff.	t	df	p
VE Before Tomatis	32,02970	7,767182						
VE After Program	13,73267	9,789679	101	18,29703	9,508464	19,33886	100	0,00
VE Before Tomatis	32,28916	7,962611						
VE 6 Months' Follow-up	11,72289	8,819758	83	20,56627	9,936620	18,85627	82	0,00

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Maastricht Vital Exhaustion Index

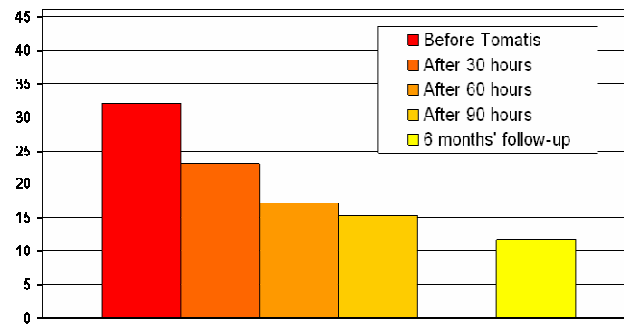
Box & Whisker Plot
Mean, Mean $\pm$ SE, Mean $\pm$ SD



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Maastricht Vital Exhaustion Index Development During the Training Program

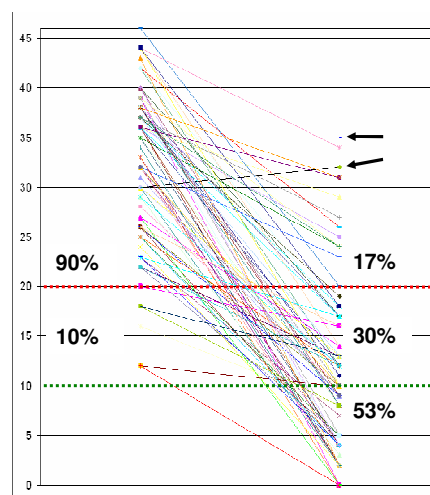
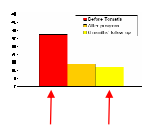


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Maastricht Vital Exhaustion Index

Before and 6 months' Follow-up, All Clients

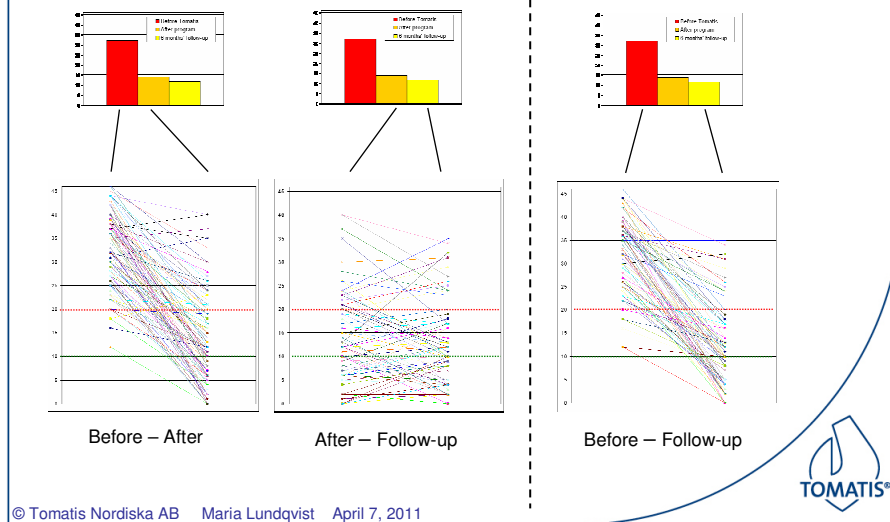


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Maastricht Vital Exhaustion Index

What Happens After the Training Program?



Summary of Experiences

1. **Measure:** KSQ, SMBQ and VE every 20-30 hours clearly demonstrate Tomatis training effectiveness.
2. **Estimate program length:** $3 \times VE \approx \text{No of Tomatis hours}$
3. **Monitor progress:** VE reacts very fast, SMBQ takes a little longer, KSQ is rather slow
4. **Start easy:** ELMA B, E1A, E1B, E2 ideal for the first intensive, after that individual programs
5. **Use actives:** voice with/without mic, CAV course ideal
6. **Trust statistics:** Results reliable; data extremely robust
7. **Expand business:** Swedish clients appreciate training at home; our machines are fully booked

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Tomatis Nordiska Team



Helena BOWIN
RCTC, speech
therapist, singer,
CAV instructor



Torbjörn
FREIJ, RCTC
behavioral
therapist



Ewa
HERMANSSON
RCTC,
psychologist



Fredrik MOËLL,
MSc, Technical
Support

- Antonia JACOBÆUS, MD and Tomatis Consultant
- Eva STRÖMBÄCK, Solisten Practitioner, CBT therapist
- Maria LUNDQVIST, RCTC

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