

A New Approach For Understanding Musicality

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<http://bbc.in/euY8lk>

guardian.co.uk

<http://bit.ly/fdKwvd>

Telegraph.co.uk

<http://bit.ly/dNiqHo>

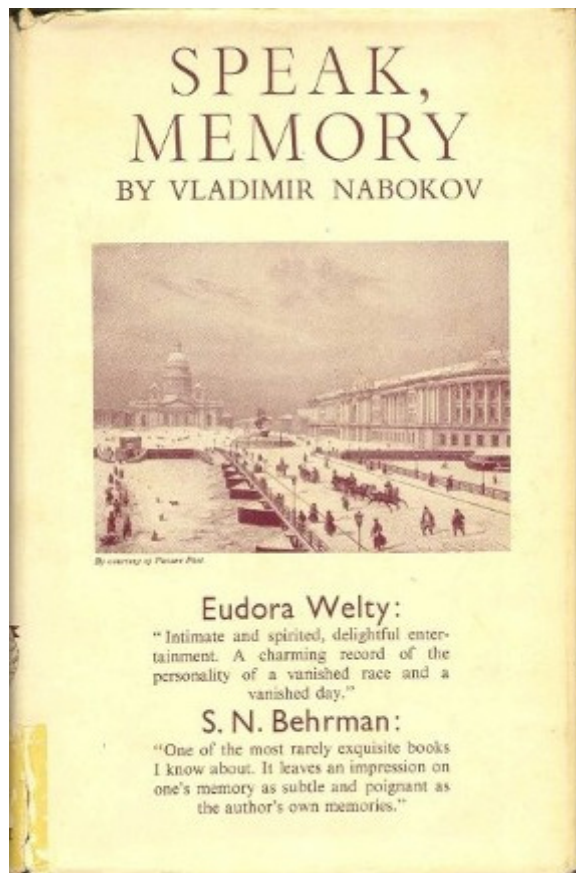




Image courtesy of Angela Palmer



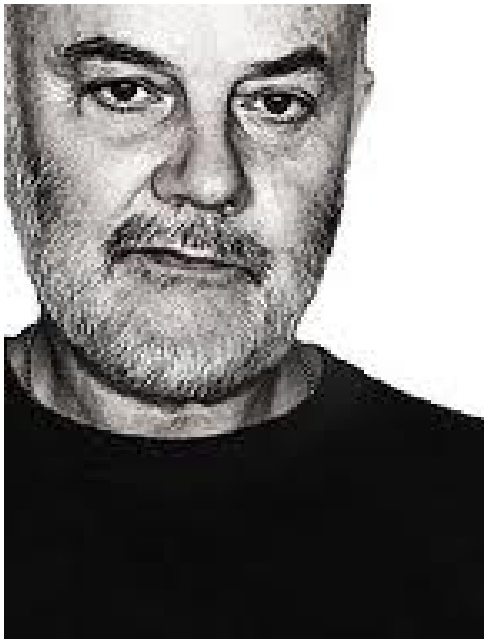
"I used to go to concerts - it was the thing to do, but I didn't enjoy it really. My husband asked me what music I liked - I said "loud music". I married him and he played Mozart. I said "turn off that awful noise". We went to operas and I slept through several of them - he really nagged me. We got divorced."



"Music, I regret to say, affects me merely as an arbitrary succession of more or less irritating sounds. Under certain emotional circumstances I can stand the spasms of a rich violin, but the concert piano and all wind instruments bore me in small doses and flay me in larger ones."

Stewart, L., (2008) *Current Opinion in Neurobiology*





The Goldsmiths Musical Sophistication Index (Gold-MSI)

- Measure musical expertise on various dimensions:
 - Perception and production abilities
 - Musical training
 - Emotional use
 - Bodily movement
 - Social creativity
 - Openness
 - Importance in life

- Independent of:
 - Musical style and musical preferences
 - Musical literacy (doesn't discriminate against non-musicians)

The Goldsmiths Musical Sophistication Index (Gold-MSI)

Components

- ❑ Self-report questionnaire
- ❑ Objective music tests, testing
 - Melodic memory
 - Rhythm production skills
 - Rhythm perception skills
 - Timbre discrimination skills

Example: rhythm perception

Based on:

The beat alignment test (Iversen & Patel, 2008)

On which track were the beeps in time with the music?



and in this example?



Example: Genre similarity



Based on:

Plink! - Identification of pop songs after a few hundred milliseconds
(Krumhansl, 2010)

Turn the dial - Identification of musical genres with bursts of music
(Perrot & Gjerdigen, 2008)

Which of these soundclips is the odd one out?



Measuring the musical nation



Measuring the musical nation

Collaborating with BBC LabUK

- ❑ Launch Jan 2011:
<https://www.bbc.co.uk/labuk/experiments/musicality/>
- ❑ Big media coverage (BBC Radio 3, 4, 5, BBC Nations, The Guardian, The Telegraph)
- ❑ 160,000 collected datasets



So what?

Questions to answer:

- ❑ What is the musical landscape of an entire nation?
- ❑ Which aspects of musicality are shaped by practice on an instrument which ones are independent?
- ❑ What else is musicality related to?



Very preliminary results ...

personality and musicality

Background: Personality and music:

- musical preferences (Rentfrow & Gosling, 2003, 2006)
- listening styles (Chamorro-Premuzic & Furnham, 2007)
- personality traits of accomplished performers
 - the *bold introvert* (Kemp, 1982): high on independence, sensitivity, state anxiety, psychological androgyny
 - Differences between instrumental groups (e.g. strings vs. brass; singers are different; Davies, 1978; Kemp, 1981; Builione & Lipton, 1983; Lipton, 1987)
 - No unique set of personality characteristics? (Woody, 1999)
 - Compare to other high achievers
 - Take socio-economic context into account
 - Take level of musicianship into account
- What about musical abilities amateur musicians?

Preliminary results on musicality and personality

Survey study: Personality and facets of musicality

□ Sample:

- 224 adults (mean age 25yrs), mainly students
- 45% don't play instrument
- Most common instruments: piano, voice, guitar
- Mainly Rock/Pop music listeners
- Scales: Gold-MSI, short Big 5 inventory (Gosling & Rentfrow, 2008), Extraversion scale (Eysenck, 1979)

Preliminary results on musicality and personality

Correlations between personality variables and musical factors

	Importance	Perception/Production	Musical Training	Emotional Functions	Bodily Movement	Social Creativity	Musical Openness
Extraversion	.164*	.195**	.271**	.172*	.385**	.32**	.29**
Conscientiousness	-.088	-.106	-.123	-.142*	-.092	-.17*	-.051
Neuroticism / Emotional Stability	.075	.184**	.129	.015	.124	.139	.095
Agreeableness	.124	.195**	.1	.132*	.158*	.19*	.156*
Openness	.395**	.381**	.293**	.394**	.275**	.391**	.384**

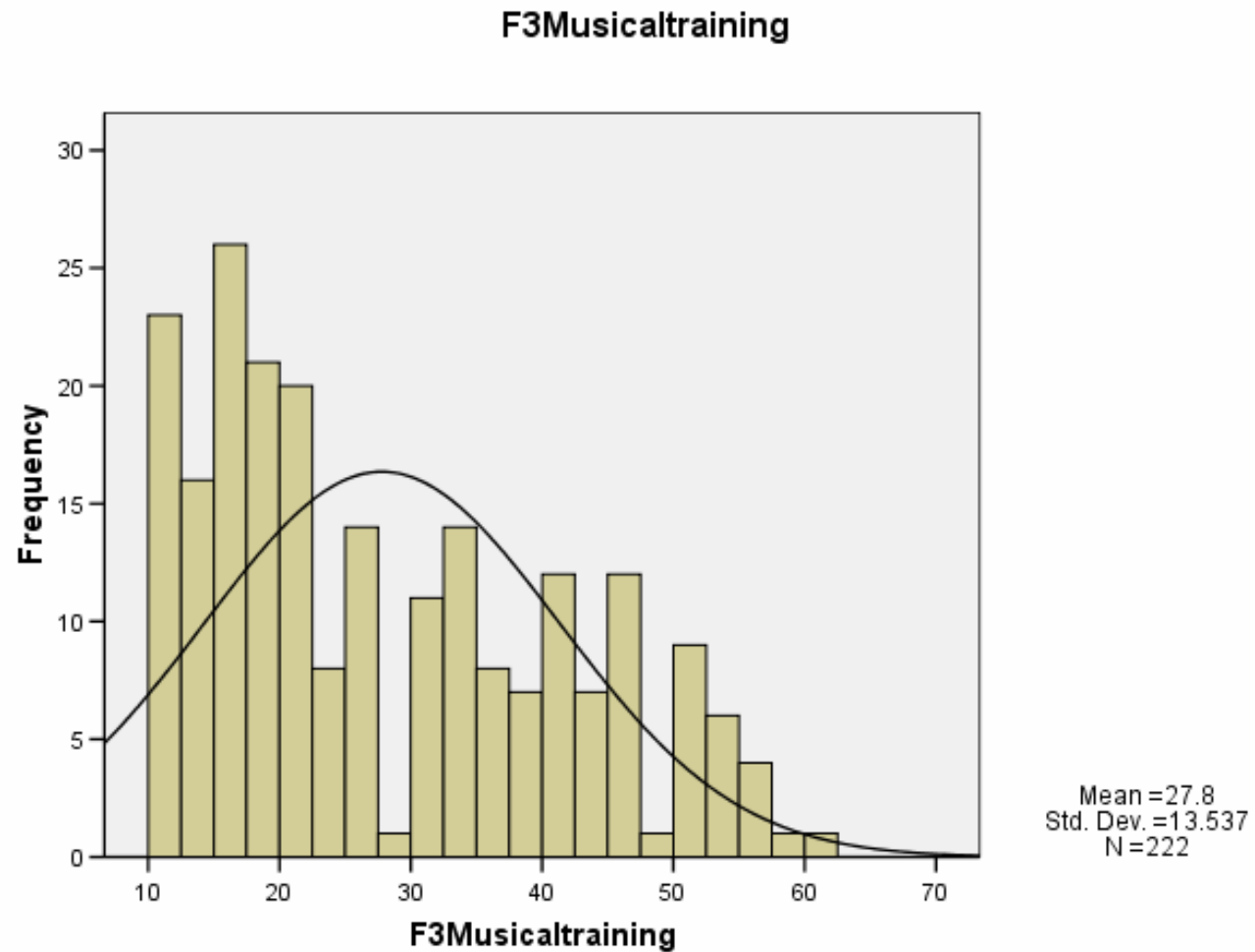
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Level of musicianship

Gold-MSI subscale 3: Musical Training

- Mean no yrs of formal music training: 3.12 (SD: 2.26)
- Mean no hrs/day of musical practice (during peak period): 2.61 (SD: 1.79)
- Mean no years of regular practice: 3.21 (SD: 2.37)
- ...
- => 9 Questions: Scale from 9 – 63

Distribution of musical training scores



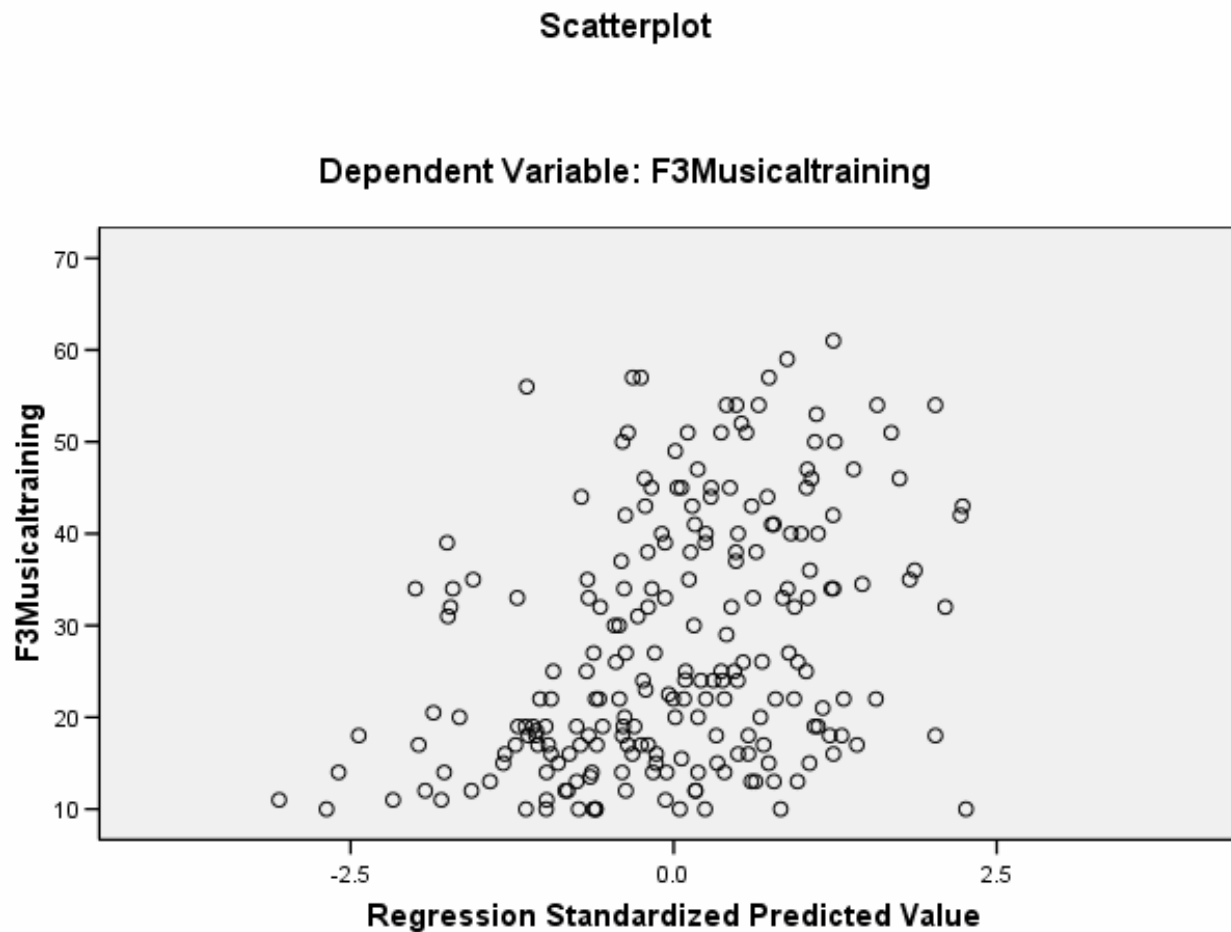
What's makes people practice music?

Significant personality traits predicting formal musical training:

	standardised β
Openness	.217
Extraversion	.214
Conscientiousness	-.125

What's makes people practice music?

Predicting formal musical training from 3 personality traits ($R^2=.137$):



Open questions

- ❑ Does music change personality or does personality make you engage with music?
- ❑ How does music listening shape your personality?
- ❑ Does it matter what kind of music you engage with?

The wider picture

- ❑ Self-reported questionnaire and objective tests:
Do you know what you are capable of?
- ❑ Musical expertise and other cognitive skills:
Does listening to music facilitate other skills?
- ❑ The musical mind and the musical brain:
Does using music change your brain?