

# Why Parody?

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# The Genes Are Not All That Get Passed Along

I had methylated feelings I couldn't  
express

I was DNA obscured by epigeneticness

My CpG islands, a terrible mess

Caused blocked promoters, no  
transcription progress

But when I'd made two fresh strands, all  
shiny and new

They said, "I'm gonna be like you, Dad.

You know I'm gonna be like you."

Activators can't bind, so no RNA is made



And the genes are not all that get passed along  
The daughter cell copies might sing the same song  
We follow the paths our parental strands took,  
We're an annotated book, yeah.  
Our strands an annotated book.

# Parody



Easier

Parody

Familiarity

# Goals

Engagement

Memory

Resonance

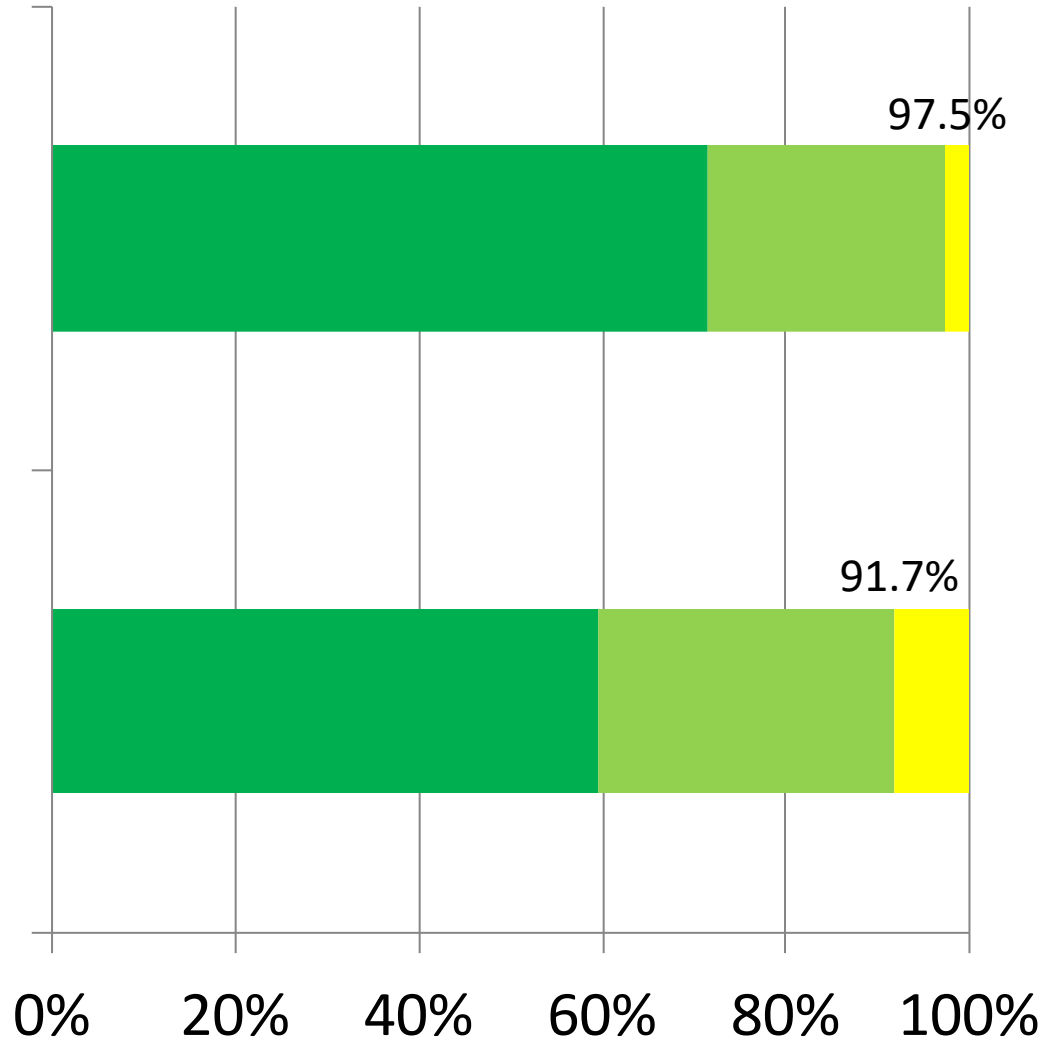
# Engagement

# Assessment: Engagement

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

The songs were a helpful break from lecture that allowed me to refocus my attention.

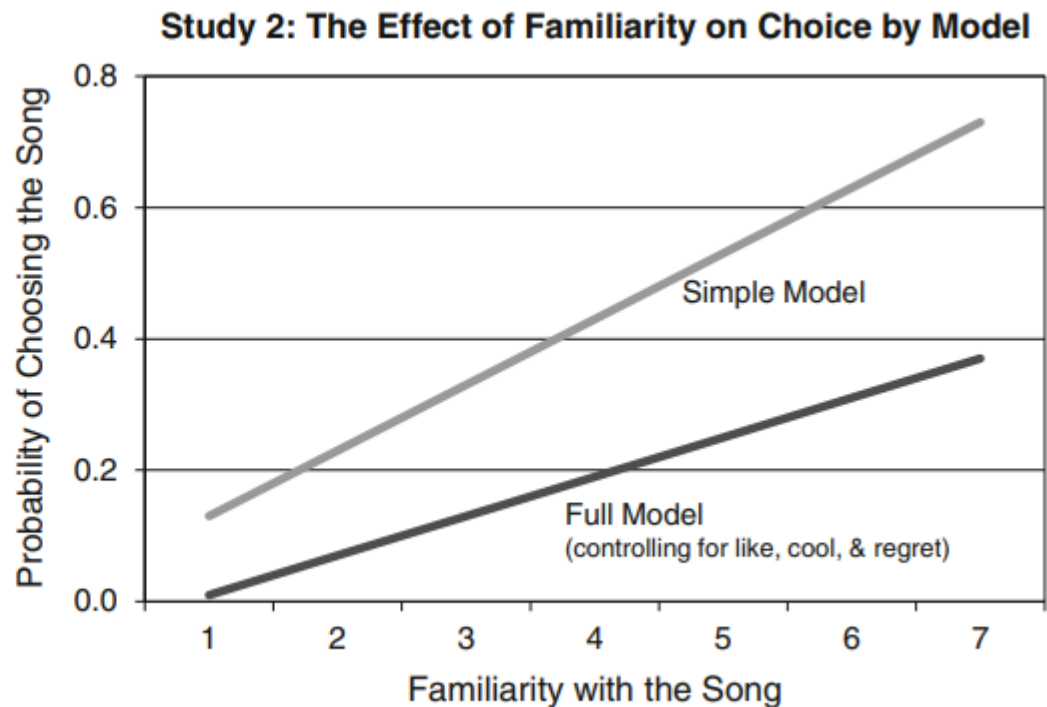
The songs made me feel more engaged in the class.



# Familiarity and engagement

12.7% of student comments on music surveys mentioned familiarity

**Fig. 2** Study 2: the effect of familiarity on choice by model



Ward, M. K., J. K. Goodman, et al. (2014). "The same old song: The power of familiarity in music choice." *Marketing Letters* 25(1): 1-11.

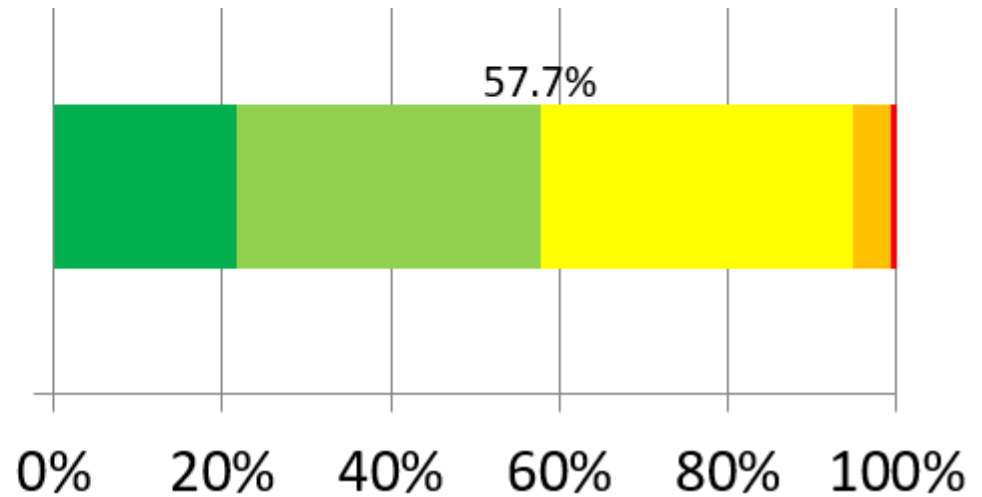


# Memory

# Assessment: Memory

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

The songs helped me memorize terms.



Heineman, R.H. 2017. Engaging college students by singing the science. *Journal of Microbiology and Biology Education*. 18(1). doi:10.1128/jmbe.v18i1.1206

# Familiarity and memory

Wolfe, D. E. & Hom, C. (1993). Use of melodies as structural prompts for learning and retention of sequential verbal information by preschool students. *Journal of Music Therapy*, 30, 100- 118.

Silverman, M. J. (2010). "The Effect of Pitch, Rhythm, and Familiarity on Working Memory and Anxiety as Measured by Digit Recall Performance." *Journal of Music Therapy* **47**(1): 70-83.

# Resonance

**resonance** 

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**NOUN**

*[mass noun]*

1 The quality in a sound of being deep, full, and reverberating.

*'the resonance of his voice'*

+ More example sentences

+ Synonyms

1.1 The power to evoke enduring images, memories, and emotions.

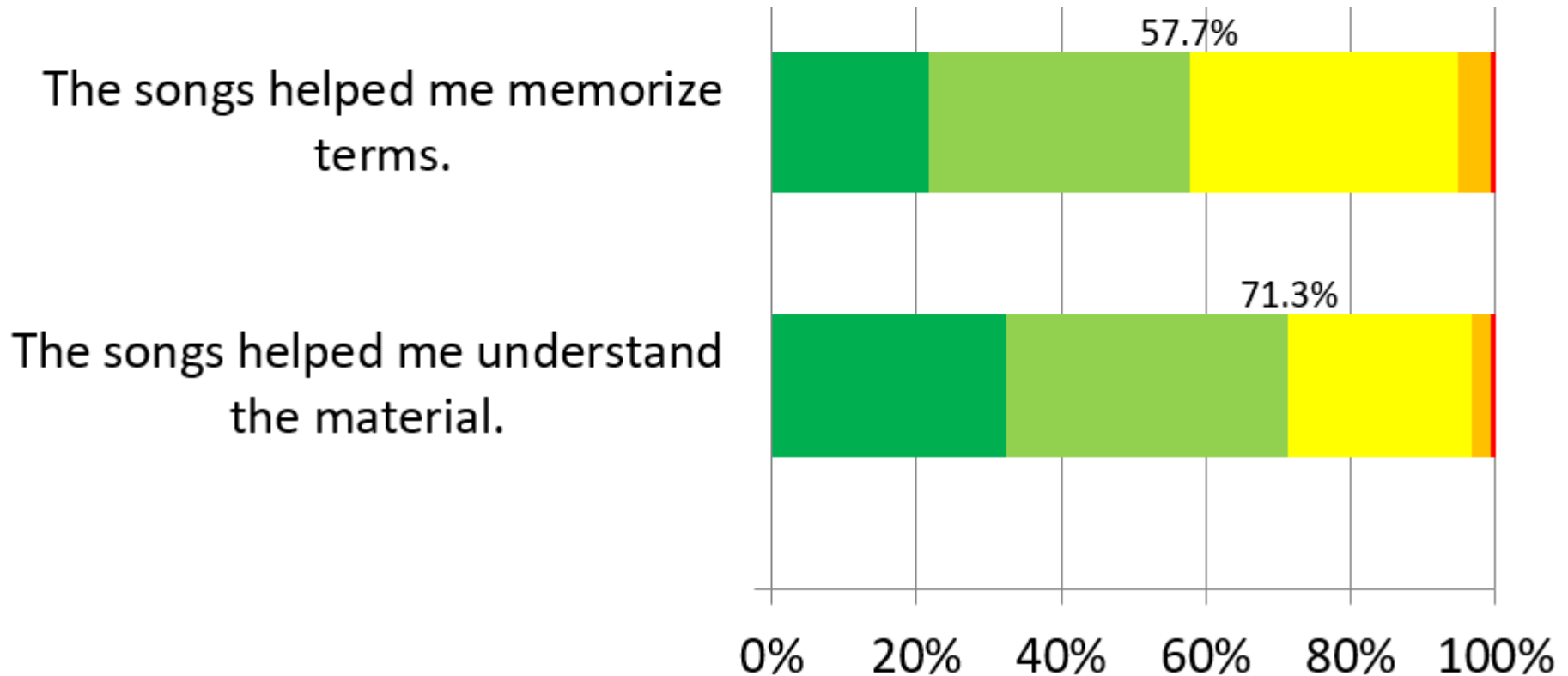
*'the concepts lose their emotional resonance'*

+ More example sentences

<https://www.lexico.com/en/definition/resonance>

# Assessment: Resonance

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree



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# Familiarity and resonance

Engagement + Memory = Resonance?

Connections between STEM and self

Canning, E., J. Harackiewicz, et al. (2017). "Improving Performance and Retention in Introductory Biology With a Utility-Value Intervention." Journal of Educational Psychology **110**(6): 834-849.

# Seeking familiarity

Choose songs students know

<https://www.bridalguide.com/blogs/top-100-wedding-songs>

Use mood/theme/topic of song

Stories and characters

# Plot the Data One More Time

Oh data data, how was I supposed to know

That something wasn't right here

Oh messy data, in regressions your R-squared's low

And your p-values are high, yeah

Not much correlation

Differences between  
groups likely chance

Oh data data, how was I supposed to know,

I should have modified my protocols three years ago.

Show me a pattern that I can see,

Tell me data cause I need to know now, oh because,

I spent a year hanging out in lab (even weekends)

Burned through the money on my PI's grant (out of cash)

If I can't publish I'll lose my mind

Give me a sign, plot the data one more time!

I must confess,

that this total mess

Is getting me down

(But) don't you know I still believe

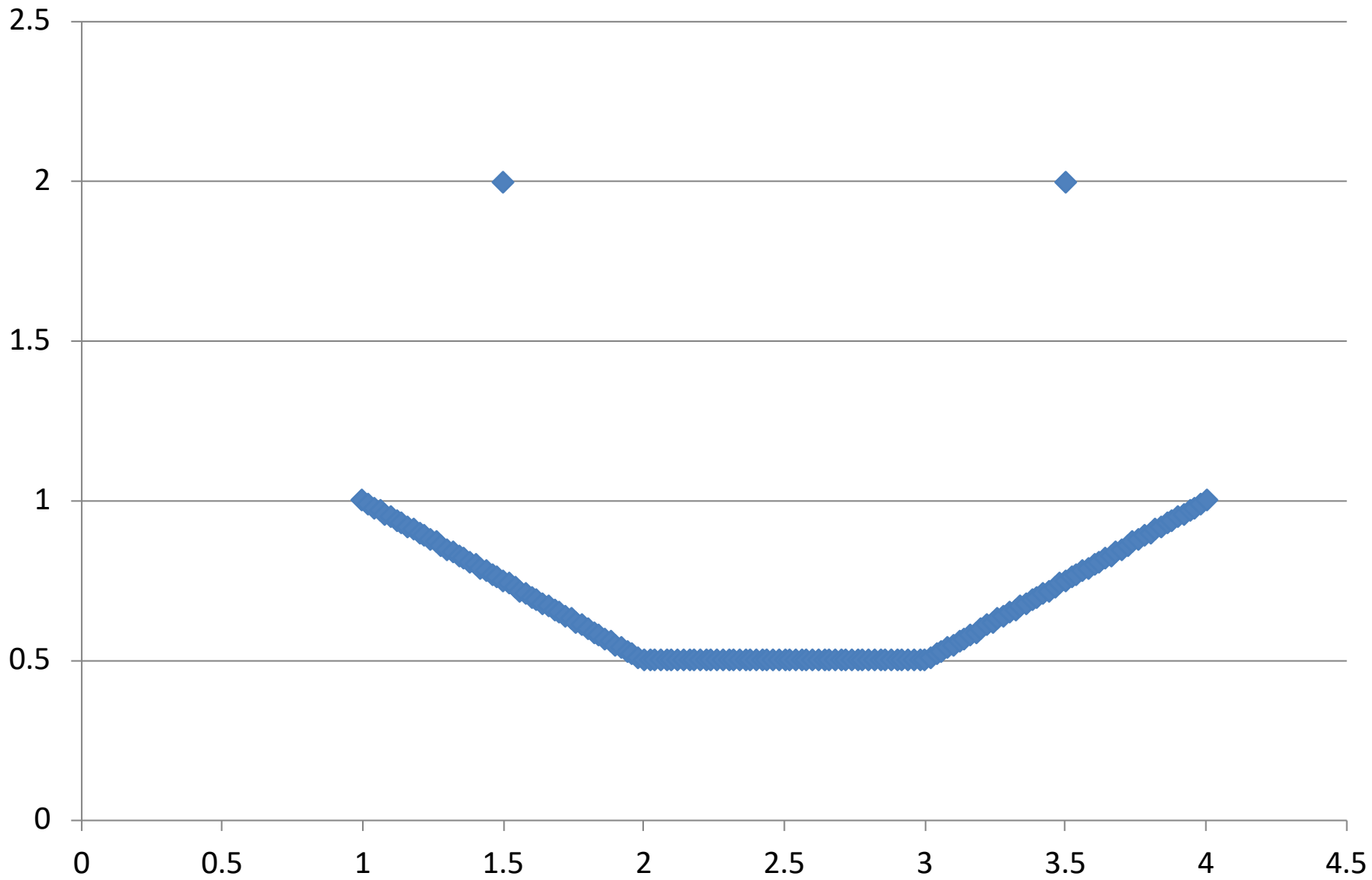
There's a pattern here

That I just might find

Plot the data one more time!

Principal investigator: boss, parental figure





# Acknowledgments

Kutztown University

My students

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