

NATS Chat- January 29, 2012- Kittie Verdolini "The Psychology of the Mind and Larynx?"

Kari Ragan

Please tell us about your recent research on "The Psychology of the Mind and Larynx?"

Kittie Verdolini

Oh golly. We have a few different research projects in our lab that could fall under that rubric.

One of them is a series of studies by a former doctoral student, Maria Dietrich, who has looked at issues of personality and voice. In her dissertation, she showed that introverts are more likely to have a laryngeal response to stress than extroverts, as measured by surface electromyography, for some extrinsic laryngeal muscles. More recently, in a study as yet under peer review, she is showing that brain substrates for introverts during vocalization are different than substrates for extroverts, if I am citing her correctly.

Genda Balakn

um...what are substrates?

Kittie Verdolini

Substrates refer to different brain regions that light up in response to various stimuli, for example stress. I just got Maria's revised paper this very day and would have to look up which brain regions are involved for introverts vs. extroverts under stress. But she did find differences, in association with vocalization tasks (as a function of personality) -- in "emotion-related" brain regions.

Kittie Verdolini

Basically, Maria is looking at the "fight" versus "flight" response of people under stress, and respective laryngeal responses. She looked minimally at "thoughts," except that introverts (with laryngeal "freezing" responses) tended to be more "ruminators" about stress than extroverts.

Barbara DeMaio Caprilli

What type of test did she use to separate extroverts from introverts?

Kittie Verdolini

The test? I would have to look it up. But it was a standardized test. If you give me a second I can bring it up....Hang on. Let me see if I can find it quickly.

Kari Ragan

While we give Kittie a moment to consult her research I would like to know how many teachers on line tonight have singers you would consider introverts?

Heather Nelsen

I've had a singer who acted the part of the bubbly extrovert, but was incredibly insecure. She really was acting more than anything. I think she would have been an introvert if she had given herself permission to be quiet for a few minutes.

Sue Anne Gershenzon

There are always big issues that get in the way of accessing the full voice...every one of my students come in with something like that.

Cynthia Kirkman Romoff

Usually a clinical definition of introvert/extrovert goes beyond what we think of in the studio i.e. outgoing vs. shy.

Natalie Gunn

Is there an easy to understand illustration you could share with us to know what the intro/extro traits are?

Carolina Matus

Personally, I'm a mix, depending upon the situation.

Glenda Balkan

That's fair.

Natalie Gunn

Is there a spectrum?

Barbara DeMaio Caprilli

I've taken the Myers-Briggs test and come up an introvert, but I'm not comfortable with a black/white type of designation; sometimes I can be an introvert, especially in stressful situations.

Kittie Verdolini

OK, I'm going to post the abstract of Maria's dissertation a little bit at a time...here's the first part -- then I'll attempt to respond to your questions
J Speech Lang Hear Res. 2012 Jan 9. [Epub ahead of print]

Vocal Function in Introverts and Extraverts During a Psychological Stress Reactivity Protocol.

Dietrich M, Verdolini Abbott K.

Kittie Verdolini

Abstract

PURPOSE:

To examine the proposal that introversion predictably influences extralaryngeal and vocal behavior in vocally normal individuals compared to individuals with extraversion, and whether differences are of a nature that may support a risk hypothesis for primary muscle tension dysphonia.

METHOD:

Fifty-four vocally normal female adults between the ages of 18-35 years were divided into two groups, introversion (n = 27) and extraversion (n = 27). All participants

completed a psychological stress reactivity experiment. Before, during, and after the stressor (public speaking), participants were assessed on extralaryngeal muscle activity (surface electromyography: submental, infrahyoid; control site: tibialis anterior), perceived vocal effort, and vocal acoustics (fundamental frequency and intensity).

RESULTS:

Participants in the introversion group exhibited significantly greater infrahyoid muscle activity throughout the protocol and during perceived stress than participants in the extraversion group. For both groups, perceived vocal effort significantly increased during stress and acoustic measures significantly decreased. Infrahyoid muscle activity during the stress phase was significantly correlated with introversion and Voice Handicap Index scores but not with vocal effort scores.

CONCLUSIONS:

The data provided evidence of distinct differences in extralaryngeal behavior between introverts and extraverts. The findings are consistent with the trait theory of voice disorders (Roy & Bless, 2000).

Kari Ragan

So, Kittie has this had an impact on your approach in teaching or habilitation?

Kittie Verdolini

First, let me try to respond to a few comments that came in -- absolutely, we're talking about a spectrum, not a black and white thing. When we deal with research, we have to divide things up into categories -- which is what Maria did -- i.e., into "extremes," to make sense of the data. In terms of the impact on teaching or habilitation?

At this point, we're (or I am) probably talking about the ability to see certain students as "freezing" (in the phonation system) and "underdoing" things -- paradoxically due to hyperfunction keeping them from....functioning.... in contrast to students who are "fighting" in response to life's stressors, and "pressing" too much. If that makes sense....

Natalie Gunn

Would 'holding' be the same as freezing to you?

Kari Ragan

Absolutely. Would love some specific approaches to the 'hyper function' or 'pressing' with regard to vocalizes. We've talked a lot about Straw Phonation in recent chats. Other ideas?

Kittie Verdolini

I.e. students who primarily complain of pain and fatigue during vocalization, versus students who tend to get injuries. If things were plainly divided up in the world, we'd be talking about students with vocal problems WITHOUT injury (more likely to be "introverts") versus students WITH injury (more likely to be extraverts), according to a simple schematic of life...

Heather Nelsen

Oh, to have a simple schematic of life!

Kittie Verdolini

Yes, "holding" is absolutely what we're talking about in terms of "freezing." E.g., breath holding. Exercises? I do think that straw exercises are good for both "holders" and "pressers."

Simple schematic of life? Yes, wouldn't that be lovely? But, a simple schematic, even if simple, sometimes helps us to get started....

Kari Ragan

That is fascinating. The non-injury (fatigue) complaints vs. injured extroverts. That goes along with my experience ironically.

Kittie Verdolini

Cool. Tell us more.

Kari Ragan

For instance—I have a tenor now who's battled vocal tension for years (before he was my student). I've worked with him for three months now but have known him longer. I suspect he is an introvert.

Karin Titze Cox

So the fight or flight response may manifest more in introvert? Do they tend to hold and are they wired differently. More sensitive to stimuli and need therapy to change the system (calming breathing/ relaxation techniques and massage)?

Kittie Verdolini

From my lab's perspective, introverts are indeed more likely to inhibit behavior, and thus co-contract ad- and abductor laryngeal musculature, whereas the extraverts are more likely to increase "behavior, and thus adduct -- and since increased adduction is thought to cause injury, they incur injury (whereas the introverts don't, so much...)

Karin Titze Cox

Are introverts the thinkers and extroverts the doers?

Natalie Gunn

Or... think then talk vs. talk then think?

Kari Ragan

Do you find more women than men exhibit laryngeal tension?

Kittie Verdolini

Based on Maria's research, introverts are more likely to trigger the "flight" (non-response) response, inhibiting vocal behavior by co-contracting a series of muscles that end up inhibiting vocal behavior (engendering pain and fatigue), whereas extraverts are more likely to trigger a "fight" reaction, in the end increasing VF adduction and thereby increasing the risk of VF injury.

Karin Tize Cox
Ahh! Interesting!

Kittie Verdolini
I would guess that introverts are more "thinkers" and "extraverts" more "doers." I think that idea would generally hold up, although there are exceptions and there is indeed a spectrum

Karen Wicklund
Where is this research documented? Just wondering.

Kittie Verdolini
In terms of laryngeal tension, I'm not sure of the gender split. However, in general, women are more likely to have "phonogenic" voice problems than men, for a series of reasons.

Maria's dissertation is published in the Journal of Speech, Language and Hearing Research (look for Dietrich and Abbott in pubmed and it should come up). Her brain based paper, on fMRI and stress reactivity and brain substrates related to voice is still under review in the International Journal of Speech–Language Pathology. I think I've responded to questions as they've come in -- however, my screen is bouncing around. So if I've missed a question, please pose it.

Karen Wicklund
Of course there are the old Tolkmitt and Scherer studies about women, stress and voice problems too

Kari Ragan
Thanks Karen. Great information.

Kittie Verdolini
Someone asked about intervention strategies for different vocalists as a function of personality? Good question. Maria's initial idea was that introverts in particular might benefit from meditation..... However, she has not yet gotten to treatment studies in her research series. So any responses to that question are as yet premature.

Kari Ragan
I'm just a bit baffled by the tension issues for this tenor as it does not present in his speaking voice—at least not the way you hear it in women.

Kittie Verdolini
Kari, so the tenor's tension presents in singing voice only? Oh golly, this is a topic for a long winter's night discussion.

Kari Ragan
I find that so fascinating since I work with singers who have a dx of MTD frequently.

Karin Tize Cox
Do you approach the flight patients differently than the fight? Do you focus differently to get to optimal voice. Do you focus on the why to guide treatment? Fight leads to

more physical intervention (massage) while flight leads to meditation (breathing)? How does this translate to motor learning. Are they focusing still on feeling, using different sensations and modalities, etc.

Kittie Verdolini

It's pretty interesting to try to type quickly and make sense (it's difficult for me to type slowly and make sense.....) -- I hope I am representing our findings correctly, as this is all from memory "on the fly.".....

Connie Jenson

Because introverts use muscles to "hold back" the voice, maybe as "protection", where extroverts use muscles to just "go for it"?

Kittie Verdolini

And I should say, what I am saying appears to apply "on average." There are individual differences, of course. But sometimes averages can reveal issues that are in play in people, even if they don't predominate....

Yes -- what you are saying is exactly the idea -- that on average, introverts may use muscles to "hold back," whereas extraverts may use muscles to "go for it." Exactly.

Natalie Gunn

I'm thinking through all of my singers, and this makes so much sense!

Kari Ragan

I agree Natalie!

Barbara DeMaio Caprilli

Yes, I agree!

Kittie Verdolini

Of course, all of this is simplistic. However, I believe these factors are generally in play, and can be meaningful for us. Just because someone is "underperforming" vocally doesn't mean he/she is not "hyperfunctioning." Hyperfunction can serve to inhibit performance as much as it can, in other cases, serve to "overdo" performance.

Kari Ragan

Although--I generally think of singers as extroverts but I will rethink that now.

Jeanie Carter

I work with a lot of younger singers, so I see a lot of introverts, insecurity...

Cynthia Kirkman Romoff

Yes to underperforming does not always equal hyperfunction, that rings a bell over here.

Kittie Verdolini

Good point, Kari -- we tend to think of singers as extraverts. However, as has been pointed out, there is a spectrum and there can be a mixture of introversion and

extraversion in people. I just read an excellent article in Time magazine today on this very point.

For example, I am a lover of stage -- love being on stage (extraversion) -- but panic in social situations requiring chit-chatting (introversion). Many of our singers may have similar profiles, which may play out in different ways vocally depending on the situation.

Natalie Gunn

What psychological directions do you recommend for helping singers on both sides find the middle ground?

Kari Ragan

Great question Natalie!

Although, we aren't therapists and isn't that often a fine line.

Natalie Gunn

Yes!

Kittie Verdolini

Published article by Maria Dietrich is: <http://www.ncbi.nlm.nih.gov/pubmed?term=Dietrich%20introversion%20voice>. The one on fMRI (brain) characteristics of people in terms of stress reactivity is still under review, so as yet there is no link.

Heather Nelson

I've often thought a psychology degree would do me well.

Barbara DeMaio Caprilli

We aren't therapists, but we do have to deal with psyches all the time!

Craig Tompkins

I would like to explore some ideas about resolving an introvert who holds herself so tightly that the sound is stifled and she feels that she runs out of air.

Sharon Buck

Yes, the mind body connection plays an important part in singing. It is the entire person we are dealing with, not just technique!

Karin Titze Cox

Yes you are singing therapists!

Sue Anne Gershenson

Agreed...it is a gestalt

Lynette Norton

Sometimes a great start is bringing the "holding" to the person's awareness--it is often an "ah-hah" moment!

Kittie Verdolini

What psychological directions do I recommend for people on various sides of these lines? Oh golly. Big question. So much depends on the individual.... I think I would

tend to deal with "psychological issues" on a case by case basis, and my first line of intervention would be vocal. I.e., addressing "holding" versus "pushing" vocally, first, under the idea that dealing with voice will ultimately "back up" and affect the psychology that underlies voice in the first place. If that makes sense.

Sharon Buck

Yes, and breath can help release.

(sorry cannot get rid of this big page break)

And also--often these singers are so free and balanced in lessons and then in voice class or competition (stress!) it all turns into push or hold!

Craig Tompkins

Great ideas... I'll continue bringing the holding pattern to her attention and see how that goes.

Virgil Leon Thurman

Deep appreciation to you, Kittie, for typing out answers to Qs that you know involve great complexities. As you know, our vocal pedagogy concepts, terminologies, and practices are substantially based in "what muscles do" without much knowledge about the neural networks that actually 'tell' the muscles what to do, when, and how much, AND that those 'vocal' neural networks are integrated with just about everything we human beings have ever thought, felt, done, etc. Anyway, good on you for doing what you do!

Craig Tompkins

This singer actually was less held in recital this afternoon than usual at lessons!

Kittie Verdolini

Would a psychology degree be helpful? Oh yes, indeed. Especially if we had unlimited time and money and intend on living for 400 years. Short of that, I think there's a lot we can do as voice teachers to work from voice to psyche, legitimately. A good example is what's been mentioned here as link between breath and voice (see, for example, Buddhist meditation practice). And totally -- simply bringing issues such as "holding" to a student's awareness -- will often result in gradual, or even sudden resolution of the issue. Awareness reigns.

Sharon Buck

Yes, I have seen that too in some students!

Nancy Box

I just witnessed a case related to Natalie's comment today. Studio recital -- I was prepared to be so proud and was baffled instead.

Cynthia Kirkman Romoff

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Nancy Bos

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Cynthia Kirkman Romoff

Is anyone else working in a teaching environment that focuses on student differentiation? This is huge where I am now and it seems very germane to this topic.

Nancy Box

I don't know what that is, Cynthia.

Natalie Gunn

explain

Cynthia Kirkman Romoff

Kitties response on going case by case made me think of this

Jen Sherley

Kittie, can you draw a connection between this recent research of Dietrich here and a book that you recommended to attendees at one of your seminars, "The Inner Game of Tennis?"

Karin Titze Cox

I like your response Kittie. It is about the individual. Come into it open is what you taught me years ago and come to awareness because they might surprise you.

Sharon Buck

One of my students is reading this and it is life changing for him!

Robin Anderson

I have "zen" lessons with those that are clearly struggling psychologically and whose symptoms are manifesting physically (i.e., the high schooler that can't phonate well because she's stressed). We breathe, stretch, do some visualization exercises, and practice producing easy, healthy, organic sounds like humming, yawning, sighing, etc. Sounds hippie, but I think it's appreciated and certainly more productive.

Jeanie Carter

I'll have to get the book!

Barbara DeMaio Caprilli

I read it a long time ago; it was recommended to me by an acting teacher, actually

Kittie Verdolini

First of all, going back through messages that are coming in as I type (and as I attempt to go up and read them, they jump around so I have difficulty actually reading them), "hear-hear" for neural networks. In terms of what I'm talking about here and the Inner Game of Tennis (fabulous text!) -- golly -- would have to think. (It's a must-read -- forget the Inner Game of Music -- nowhere near as cool.) Let me think...

Sue Anne Gershenzon

I have to share and chime in...I have a student that couldn't make a sound when someone tried to get her into a car on the street. she could not breathe. We have been working on this by every method I have, and she is of course now going to therapy. They discovered it is about her mom.....once realizing this and dealing with it, she is getting better and better. Opening more and more each lesson.

Craig Tompkins

Nice idea Robin, about the zen lessons!

Sharon Buck

The Inner Game of Tennis is supposed to be better than the Inner Game of Music also by the same author.

Connie Jensen

Similar book that has helped me and many students is Don Greene's "Performance Success". It focuses also on breath release, and attention to muscle involvement in singing.

Virgil Leon Thurman

Inner Game of Music was by Barry Green, a bass player, just so you know.

Kittie Verdolini

The connection??? Well, I'm thinking that for both introverts and extraverts, and any kind of "verts," a critical issue in voice training is truly awareness (as opposed to "judgment") -- which is highlighted in the Tennis book. I believe that once we become truly aware of what we are doing physically, and what the output is, our brain figures out how to modify accordingly as needed. So awareness, at minimum, would be valuable for all concerned.

Kari Ragan

Kittie--this has been invaluable. I cannot thank you enough for joining us tonight!

Virgil Leon Thurman

Amen, on awareness.

Sharon Buck

Yes, and the more aware we are as teachers of ourselves in every moment, the better the lessons, right?

Natalie Gunn

Absolutely! Awareness on many levels.

Trisha Causey

Agreed!

Kittie Verdolini

In terms of the deeper psychological issues -- as mentioned in terms of a student's mom, etc. -- without a doubt, these play a role. Personally, my own issues in singing were most effectively addressed by my teacher, Mark Madsen, through body work. Powerful.

jeanie Carter

Their practice time will certainly be more productive when aware.

Jen Sherley

Perhaps even starting with the awareness of which type of stress response one might have. "I'm more of a flight responder and I tend to activate antagonistic muscles" would be a beginning!

Connie Jensen

Thank you so much for a wonderful discussion!

Natalie Gunn

Learned a lot about myself too!

Thank you!

Sharon Buck

Yes, good stuff!!

Karin Titze Cox

Thank You Kittie!

Barbara DeMaio Caprilli

Thank you!

Trish Causey

Thank you!!!

Kittie Verdolini

Yes, awarness rule. It's a real delight for me to chat with yinz (Pittsburghese for "y'all). How quickly the hour flew by! Blessings and gratitude to all!

Craig Tompkins

Thanks everyone! I'm looking forward to reading the transcript.

Thanks, Kari!

Sharon Buck

Yes, thanks Kari!:)

Kari Ragan

A BIG THANK YOU TO KITTIE AND TO ALL THE CHATTERS TONIGHT!

Kittie Verdolini

Thanks indeed Kari. Do we get to edit (correct typos) in the transcript??? THANKS TO ALL!!!

Craig Tompkins

Thanks to YOU Kari for organizing such great chats. We've been having record breaking numbers!

Kari Ragan

Yes—I do my best to fix typo's!

Thanks for the patience until we sort out the technology choices.

Kittie Verdolini

It's 11:00. I'm signing off. THANKS Kari about the typos. I saw a few as they flew by..... Love, light, bliss to all....

Kari Ragan

GOOD NIGHT!!!

Kittie Verdolini

NIGHT!!!!

G'night from the Wet Coast!

Kari, so the tenor's tension presents in singing voice only? Oh golly, this is a topic for a long winter's night discussion.

First of all, in singing there is generally a much greater pitch and loudness range than in speaking, so a series of mechanisms are called into play in singing that are not present in speech, just for starters.

Virgil Leon Thurman

Very true on the winter's night discussion

Nancy Box

I had been under the impression that you were talking about people in pressure situations, like performing. Are you talking about introverts and tension 24/7?

Kittie Verdolini

of course potential for any combination of psychological (stress, history, etc.) issues in singing, as well as simple mechanistic issues in singing that are simply not present in speech. Am I talking about introverts and tension (vocal) 24/7? According to Maria's research, yes. The issues would manifest more under situations of stress, potentially. But they may be subtly present in everyday life. At least that would be my take, based on her research.

According to Maria's data, introverts are more likely than extraverts to develop "muscle tension dysphonia," i.e., issues of pain and fatigue in vocalization, without lesions, than extraverts (who, according to Nelson Roy, are more likely to get stuff such as nodules -- i.e., lesions from vocalization).

Natalie Gunn

How can we help an intro type learn to sense the holding/freezing?

Kari Ragan

I find that so fascinating since I work with singers who have a dx of MTD frequently.

Karin Titze Cox

I approach the flight patients differently than the fight? Do you focus differently to get to optimal voice. Do you focus on the why to guide treatment? fight leads to more physical