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# **Boots and cats!**

Beatboxing from a pedagogical perspective



## **Abstract**

This thesis attempts to discover how and when beatboxers learn this art form, and also if that differs depending on when they were born. My hypothesis was that beatboxers who grew up without the aid of YouTube and similar online resources learned it in a fundamentally different way than those born into the Internet Age. I also wanted to find out if they were happy about the way they learned beatboxing, or if they in general would have preferred a more methodical and pedagogical structure to their learning.

I posted a questionnaire on numerous social media forums in addition to personally sending it to many beatboxing friends and acquaintances, receiving 47 replies in total. Most respondents had learned beatboxing in high school or college, but many of the younger beatboxers had learned it earlier, which I believe is due to its increasing popularity.

The study found that while approximately a third of the respondents were happy with the way they had learned, nearly half expressed a wish for a more structured, methodical learning process or a teacher to help them progress.

I believe the findings of this study highlight a need for beatboxing to be included as a future instrument in music pedagogy education programs to help the next generation of beatboxers in the progression of this art form.

Keywords: beatbox, beatboxing, vocal percussion, pedagogy, methodology, a cappella, vocal group

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# 1. Introduction

I was initially exposed to a cappella vocal group music at a young age. My first encounter with the genre was through a group my father sang with called *The Off Sounders* – a reference to the proximity of Long Island Sound, not their musicianship. My older brother and I used to tease my dad that the music he performed wasn't cool. Ironically, when my friends and I later decided to start a group of our own in high school, *The Overtones*, the first music we used was pilfered from my father's group. It appears that, like a fine wine, musical tastes improve over time. The Overtones had a great time singing songs of the 1950s and '60s, but slowly came to the realization that we were just recycling what had already been done by generations past. Wouldn't it be great to arrange and sing modern hits, as well? Incidentally, this was when we began discovering what collegiate a cappella groups were doing, mainly through compilation albums like BOCA (Best of College A Cappella) and by visiting different universities during our junior (third) year. We were utterly amazed by two things. First, their arrangements made them sound just like real instruments, something my group had not even thought to do. Second, and more notably, their use of vocal percussion and beatboxing had previously been an alien concept to us.

What are vocal percussion and beatboxing? In Brody McDonald's (2012) book *A Cappella Pop*, beatboxer Jake Moulton defines vocal percussion as "the imitation or approximation of percussion instruments" (p.81), essentially the bass and snare drums, tom toms, hi-hat, and cymbals. Beatboxing is a form of vocal percussion, but can be described as "music with your mouth... beatboxing is making and *being* the music, not just rhythm" (ibid.). Whereas the aim with vocal percussion is to emulate the sounds and rhythm of drums, beatboxing is both the rhythm – predominantly through the bass and snare drums as well as hi-hat – while also incorporating various sound effects such as DJ scratching, synthesizers, and bass lines. Using the mouth, lips, tongue, and voice to make music is thus the beatboxer's equivalent to a pianist's fingers and arms.

Back to BOCA – how could these collegiate a cappella singers imitate an entire drum set as well as countless electronic noises to sound like a drum machine? Was this something my a cappella group could also use? Through much imitation, trial and error (try saying the phrase "boots and cats" while over-articulating the

consonants and minimizing the vowels), and practice, I was slowly able to add more sounds and rhythms to my vocal percussion and beatboxing arsenal.

In subsequent a cappella and vocal groups (the *Sons of Pitch* and *Troubadours* at The George Washington University in America and later *Baravox* in Sweden) I have further developed my vocal percussion and beatboxing abilities. However, one thing I always found myself wondering was how the people who had inspired me had themselves learned. Did they, like I had, acquire their ability through imitation and experimentation? Had they read a book or watched a tutorial? Was there a university professor of vocal percussion studies about whom I didn't know? I also wondered if there was a difference in the way someone had learned vocal percussion and beatboxing if they grew up in the Internet Age or before it.

For the sake of simplicity, I will in continuation refer to the terms “vocal percussion” and “beatboxing” simply as “beatboxing” (except when citing a source).

## **2. Background**

In this section, I will explore different aspects of and relating to beatboxing: what it is and its history; a cappella vocal groups and the further development of beatboxing; gender diversity in beatboxing; technology and music's development (specifically relating to beatboxing); different ways in which people learn music (including models for learning); and finally a review of some scholarly work relating to beatboxing.

### **2.1 Beatboxing – what is it?**

Beatboxing's origins can be traced back millennia depending on what one views as “beatboxing.” In many forms of tribal music from ethnic groups in Africa, one finds the use of percussive clicking sounds as well as loud breathing rhythms. In America, the Appalachian vocal technique called *eephing* has its roots in the 1880s, and uses a combination of rhythmic wheezing, hiccupping, and hand clapping. In a talk on National Public Radio (America), author Jennifer Sharpe (2006) recounts eephing as “a hillbilly equivalent to rap's human beat box phenomenon.” Various rhythmic elements of other 19<sup>th</sup>-century American musical genres such as jazz (scat) and spirituals (emphasis on percussive consonants) can be seen as precursors

to beatboxing. Artists such as The Beatles and The Beach Boys used various forms of vocal percussion and percussive sounds in many tracks. Michael Jackson was known to incorporate elements of vocal percussion and beatboxing both in demos and in finished tracks, as seen in the video “*Michael Jackson Beatboxing*” (Acidrainispain 2008).

Beatboxing as we know it today has its roots in early 1980s hip-hop originating in New York City. In the absence of a drum machine, or “beatbox,” artists would imitate its sounds and rhythms when accompanying rappers. Some of the first beatboxers were Douglas E. Davis (“Doug E. Fresh”), Darren Robinson (“Buffy”), Marcel Theo Hall (“Biz Markie”), Kenny Muhammad (“The Human Orchestra”), and, later, Rahzel M. Brown (“Godfather of Noyze”). More recently, beatboxers such as Senjka Danhieux (“RoxorLoops”) and Harry Yeff (“Reeps One”) are at the forefront in the ever-developing advancement of the art form. Others, such as Tom Horn (“Tom Thum”) and Darren Foreman (“Beardyman”), are renowned for their use of live looping technology to create “songs” as well as their beatboxing skill.

Deke Sharon is considered by many to be the “father” of contemporary a cappella music (Rapkin, 2008, p.8) for his role as a pioneering singer, arranger, producer, and pedagogue within the a cappella community. In Sharon’s book *A Cappella Arranging* (2012, p. 235), he writes, “vocal percussion, like beatboxing, is an aural tradition, best learned and practiced by ear.” He also writes that, among all the various elements within a cappella music, vocal percussion has been the most recent to develop.

Choral writing has had a thousand years of development since the first notated music appeared around 1000 A.D., and a cappella has followed alongside in the popular idiom from madrigals through folk music, spirituals, barbershop, and doo-wop into contemporary a cappella...[beatboxing] has developed out of necessity as it became increasingly difficult to represent popular music, given all its rhythmic elements, without it (Sharon, 2012, p. 235-236).

In their report *Characteristics of the beatboxing vocal style*, authors Dan Stowell and Mark Plumbley (2008) state that perhaps the most fundamental difference between beatboxing and other vocal traditions – such as jazz scatting and Indian *bol* (a mnemonic syllable used to define rhythmic pattern) – is “the beatboxer’s primary aim to create *convincing impersonations* of drum tracks,” leading beatboxers to “suppress some of the linguistic cues that would make clear to an audience that the source is a single human voice” (Stowell & Plumbley, 2008 p. 1-

2). Thus in scat and *bol*, percussive rhythms are imitated, yet there is no ambition to mask the vocal origin of the sounds.

In 2002, UK beatboxer Alex Tew (“A-Plus”) created what would become the largest online beatboxing community, Humanbeatbox.com (DMC World Magazine, accessed 2015). This forum serves as a place where beatboxers and non-beatboxers alike can come together to share ideas and tips, as well as learn from video tutorials. Also in 2002, German beatboxer Alexander Bülow (“Bee Low”) founded the Beatbox Battle Network, a similar online community which, like Humanbeatbox.com, organizes international beatboxing competitions. Thus what started on the streets of New York has now blossomed into formal competitions with world champions.

## **2.2 Vocal groups**

Beatboxing can stand on its own, be it on a street corner, an impromptu “battle” (two beatboxers competing against one another), or an international competition. Yet one of its more recent applications has been to provide the “rhythm section” for a cappella groups.

There are many different types of a cappella groups: male, female, or co-ed; high school, collegiate, or glee clubs; amateur or professional. Writing in the foreword to Brody McDonald’s *A Cappella Pop* (2012, p. vi), Deke Sharon writes that “contemporary a cappella was born and nurtured on college campuses and by young professional a cappella groups looking to find a way to effectively replicate the sound of popular music, which is increasingly driven by strong beats and dense instrumental textures.” Describing contemporary a cappella himself, McDonald states that “contemporary a cappella, also sometimes known as pop a cappella... means that the group is recreating popular music by imitating the sounds of a band. Guitars, horn lines, bass guitar, and even the drum set are there to support the soloists (ibid. p.16).”

## **2.3 Gender diversity in beatboxing**

There are no female beatboxers in the aforementioned list of pioneering artists. Likewise today, it is an art form dominated by men. However, there are many female beatboxers around the world who are active both in informal and

competitive settings, including Selame Kedist (“Selame Scarlett”), Isabel Ehresmann (“Bellatrix”) and Antoinette Clinton (“Butterscotch”).

In Lars Lilliestam’s book *Musikliv* (2009), the author discusses how gender norms play a role in which instruments people choose. Lilliestam notes that there are strong preconceived notions regarding what instruments are masculine and feminine, and these often arise when students first choose instruments in school. The typical feminine instruments are piano, violin, and flute, while the guitar (especially electric), bass, drums, and saxophone are considered masculine. Thus a student’s choice of musical style and instrument is greatly influenced by stereotypical notions of what is suitable for each gender. Lilliestam adds that those children who go against these stereotypes, for example boys who play classical music and girls who play rock, can experience difficulty or hardship from their peers.

In *The Social Psychology of Music* (1997), the authors discuss this phenomenon further via a study first published in the *Journal of Research in Music Education*.

In a series of related studies, Abeles and Porter (1978) systematically examined the gender stereotyping of musical instruments. They asked undergraduate music and non-music students to determine the placement of eight instruments on a masculine-feminine continuum. Participants were presented with randomly ordered pairs of instruments and were asked to circle the instrument they considered to be the most ‘masculine.’ They found a perfect correlation...for ranked gender ratings between the two groups. The most ‘masculine’ instruments were the drums, trombone, and trumpet; the most ‘feminine’ were the flute, violin, and clarinet (*The Social Psychology of Music*, 1997, p.51).

## **2.4 Technology and the development of music and beatboxing**

University of Southern California anthropology professor Tok Thompson describes beatboxing in his article *Beatboxing, Mashups, and Cyborg Identity* (2011, p. 171) as a relatively new artistic tradition in terms of its “communal, changeable forms as displaying hallmarks often associated with folk music.” He notes that, despite beatboxing’s popularity and with some important exceptions, it remains for the most part outside the realm of the music recording industry, record charts, and copyright offices. At the same time, Thompson writes that it has moved into the global realm, with worldwide reputation, in large part via the Internet. Thompson

states that for something to be considered folk music, it should be largely “unauthored and uncopyrighted” and evidencing “multiplicity and variation” and “artistic communication in small groups “ Noting the plethora of beatboxing performances on YouTube and similar websites consisting of user-generated content, Thompson explains that YouTube is not only a means of distribution, but it is also an additional performance venue, where music can be heard, commented upon, appreciated, and recreated (ibid).

In his book *Musikliv* (2009) Lars Lilliestam describes the manner in which listening to music and its accessibility has changed over time. “The development from Edison’s phonograph via the gramophone to portable listening devices is spectacular. Today we can take music with us anywhere. We don’t need to go to a concert to listen to music (my translation P.S., p. 47).”

## **2.5 The pedagogy of a new art form**

As this nascent art form lacks the longevity associated with other instruments enjoying a longer history, there is neither much documented nor formally established concerning its common practice. Owing to this, the learning of beatboxing is thus deficient of the tried and proven methods found with other instruments, and this lack of an accepted methodology and overall pedagogy may result in an adverse learning atmosphere for those wishing to learn the art form.

In the foreword to *A Cappella Pop* (McDonald 2012), Deke Sharon poses the central question underlying this thesis: “people began to teach these new musical forms, although they themselves had not been formally educated in a scholastic environment. How does one translate knowledge and experience into a successful methodical pedagogy?”

Perhaps sensing this pedagogical void, the Guildhall School of Music and Drama in London, UK will offer a new degree starting in autumn 2015 entitled *B.A. (Hons) Performance and Creative Enterprise*. Guildhall advertizes the new program on their web page as “a new degree for artists who want to develop their performance, production, collaboration and leadership skills for employment in the arts industry.” Amongst others, the program is targeting musicians and beatboxers looking to prepare themselves to collaborate, communicate, and lead in a variety of cultural and socially engaged contexts. The program will be taught through on-site specialist training with renowned artists and tutors.

## 2.6 Imitation and notation: methods and models of music learning

The first things we learn in life are not picked up through instruction or explanation from a teacher. In his book *Spelrum* (2000), Swedish flautist and music pedagogue Robert Schenck writes that before we started in school, we were already small virtuosos at many skills like speaking, walking, running, and eating with a knife and fork. Humans' innate potential to acquire skills, our intrinsic motivation to be like and do as others, and our astounding ability to follow the example of others lend themselves as much to a child learning to play fetch with their dog as to a person learning a skill outside of the traditional scholastic realm.

Imitation has thus always played an important role in the way we learn. Schenck explains that art and architectural students often copy the works of the past masters for inspiration and to improve their own skills. He also notes that there are examples in instrumental and vocal pedagogy where learning is achieved through imitation and by the example of others without verbalization.

However, too great a focus on imitation generates other problems. Total imitation without allowing for somebody's own initiative or the student's own identity leads to stagnation; renewal and individuality are lacking. Schenck describes the traditions of folk musicians, where young players first learn through imitation. Through their creativity and personality, students make the songs their own and put their own mark on them. In this way, playing style and musical tradition will constantly change and develop, in precisely the same way that a living language does.

If music students are not learning through imitation, they are most likely using sheet music. Music pedagogues Anna-Lena Kempe and Tore West (2010) state that when beginners are forced to learn solely in this manner, they are prevented from being able to concentrate on learning to recognize and identify basic musical structures. Drawing a parallel to Schenck's views, Kempe and West write that children who learn to play via sheet music do not get the chance to express themselves in ear training or improvisation. As a result, these students potentially miss out on the opportunity of gaining formative musical experiences which require some degree of expressive musicianship.

It becomes clear that a delicate balance between imitation and concrete musical notation is necessary in the teaching of beginners. Too great a concentration on imitation leads to a lack of development and self-initiative, while focusing too much on learning from the black and white of sheet music can progress to a lack of musical creativity, both of which can lead to a student's eventual lack of interest. The book *Hur vi lär* (Marton, 2000) describes American psychologist Carl Rogers beliefs that meaningful learning is only possible when the individual has confidence in their own learning abilities and feels that what they learn will be personally rewarding and meaningful.

In their book *Folkmusik i Sverige* (Folk music in Sweden, 2005), ethnomusicologists Dan Lundberg and Gunnar Ternhag state that:

From a cultural perspective, the transfer of learning can be referred to as the passing down of knowledge...the two forms of this passing down are vertical and horizontal. The vertical passing down of knowledge is perhaps the best-known form, typically from an older person to a younger, often between people of two different generations. Yet the horizontal kind, that is to say the passing down of knowledge between people of the same generation, is at least equally common (my translation P.S., p. 55).

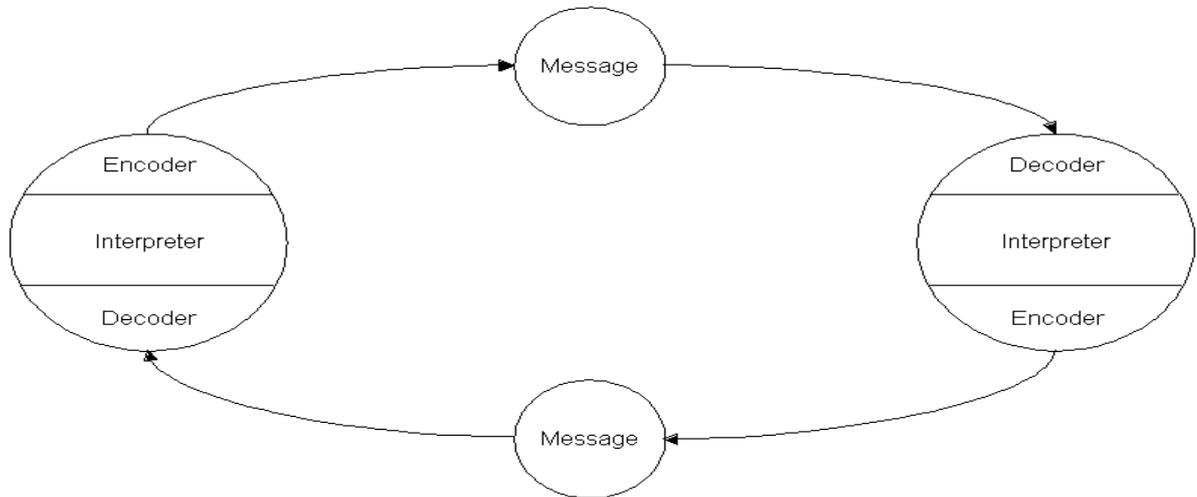
In the book *Musikliv*, (2009) Lilliestam also details how musical tastes are often strongly formulated during one's youth. Many people develop a strong musical interest during their youth, often stronger than during any other time in their life. It is common that during this time, one encounters deep musical experiences, and many people are characterized by the music of their youth for the rest of their lives.

### 2.6.1 Schramm's model of communication

Below is author, academic, and pioneer of communication studies Wilbur Schramm's *Model of Communication*, which demonstrates the circular communication between two people or groups of people (Larsson, 2014):

Figure 1

### Schramm's Model of Communication, 1954



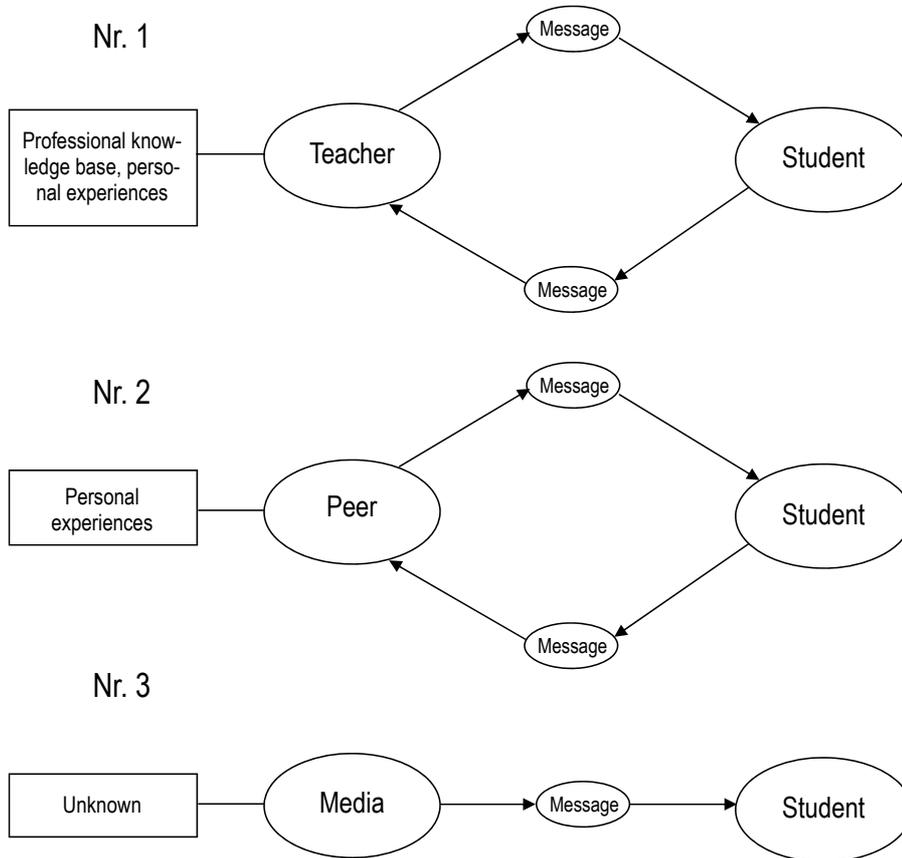
Viewed from a music pedagogy perspective, Schramm highlights the communication process (teaching) as a reciprocal circular communication between the sender (teacher) and receiver (student).

#### 2.6.2 My model of learning

Based on Schramm's seminal work, I have devised a similar model to demonstrate what I believe to be the three basic methods by which students primarily learn music: through a teacher (Nr. 1), a peer (Nr. 2), or self-taught (Nr. 3):

Figure 2

*My model illustrating the three ways of learning music:*



**The first method**, learning from a professional educator, is perhaps the most common when it comes to music education, dating back centuries. Someone with a professional musical education teaches the novice, who is enrolled in musical education either through school or via an extracurricular activity; the degree to which the teacher is educated may vary from case to case. Through a carefully planned curriculum, the teacher guides the student from the rudimentary basics to more advanced concepts and ideas concerning general musicianship.

There are many benefits to this tried and tested method. The student has the advantage of drawing on the teacher's own education and background, including the teacher's own experiences in addition to others. Since it is primarily the teacher

who decides the design and progression of the course, there will be a methodical order to the material learned by the student. This is not to say that the student will always be able to play or study precisely what they wish, yet the student's best interest and overall aim for progression lie at the heart of the lesson plan. This method employs circular communication between the teacher and the student, allowing for feedback and different approaches to the same material when necessary.

**The second method**, learning through peers in an informal education setting, is increasingly common. Drawing on a friend or acquaintance's experience and skill, a student can ask for general guidance and information in addition to specific assistance to a particular problem they may encounter. In a beatboxing example, a student may seek the help of a friend who can make a certain sound that they too wish to be able to produce.

One of the primary benefits to this method is that the student can get help on any given issue whenever they want, outside of any formally structured curricula. This can be compared to psychologist Carl Rogers' interest in establishing a learning community where students would be free to follow the ideas that interest them. As previously stated, Rogers also believes that meaningful learning can only be achieved when the student feels that it is personally rewarding and meaningful. Our extraordinary ability to imitate others, as described by Schenck, is at the crux of this method, as learning from a peer is intrinsically based on imitation. Another boon to the student is their feeling of comfort and security in working with a peer. However, there are negative aspects to this method, as well. In all likelihood, the peer sought out by the student does not have a methodical structure to their teaching, and they are merely reacting to the student's wishes. The student may be asking about something for which they do not possess the necessary background or required skills to achieve, which can result in frustration for both the student and peer. The risk for discouragement could hamper the student's continued development and, potentially, lead them to abandon their interest in the subject entirely. Conversely, the student is axiomatically seeking help for something they wish to learn, and as such may be willing to put in the required effort to realize that aim regardless of the cost. This method also employs circular communication between the peer and the student where feedback may be given. Depending on the peer's own background, however, the ability to change course or better explain or

demonstrate a particular concept may be lacking if and when the student encounters difficulty.

**The third method**, self-taught and learning via media, is a newer phenomenon born out of the technological developments of this epoch. From learning guitar tablature to Tuvan throat singing, Internet resources such as YouTube bring a “teacher” directly into the student’s home. Drawing on people’s expertise from around the world, students can learn particular skills or more overarching concepts.

The greatest benefit to this method is that, in theory, a student can learn anything they want, whenever they want. I will prove this point... In a break from writing this thesis, I have now just learned how to play *Let it go* from Disney’s *Frozen* on the ukulele and *Amazing Grace* on the harmonica.

In her dissertation from the Malmö Academy of Music, pedagogue Kristina Holmberg (2010) describes what she calls “ego children (my translation P.S., p.173).” Holmberg defines ego children as students who want to steer the direction of their own education based upon their own understandings and interests, often at the expense of a given lesson plan or, potentially, entire curricula. Relating to this concept, the student in the third method has the ability to cater their musical education precisely how they wish, which can be compared to Rogers’ beliefs concerning meaningful learning and a learning community. This method affords the student the opportunity to learn from a world-renowned master in a given field whom they would otherwise never have the chance to meet. Students can learn when it fits their schedule and move on from something when they grow bored without anyone “forcing” them to continue.

One of the greatest drawbacks to this method is that there is no two-way communication, feedback, or external perspective for the student, meaning there is no way they can be corrected if they are doing something wrong – either methodically or in practice – or potentially harmful to themselves. Another limitation of the method is that the background, experience, and knowledge of the teacher are often unknown or unverifiable. This method also presupposes that the student knows what is most beneficial for their overall learning, and allows the risk that they confuse their in-the-moment curiosity for an education. Once again, the student may also attempt to learn something too challenging for their current skill level. This can lead to dissatisfaction by their lack of accomplishment on top of the inability to know how to achieve it. In a formal education setting, a teacher can

methodically approach the difficulty to help the student attain their goal while ideally also providing the structure needed to prevent such an instance in the first place.

## **2.7 Scholarly work in regard to beatboxing**

In *Characteristics of the beatboxing vocal style*, Stowell and Plumbley (2008) explain that beatboxing has developed outside of the world of academia, and so there is very little scholarly work on the topic, its history, or its current practice. The following summaries of two scholarly studies are among the few of which I am aware. They describe findings pertinent to the physiological and auditory nature of beatboxing, including their application in fields such as vocal pedagogy and linguistics. This thesis is, to the best of my knowledge, the only such study from a pedagogical viewpoint.

### **2.7.1 “Beatbox less harmful to vocal cords than singing”**

A summary of the study *Functional Endoscopic Analysis of Beatbox Performer* (Sapthavee, Yi & Sims 2013).

Given the amount of pressure emanating from the throat during the performance of beatboxing, one might think that it is more harmful to the vocal cords than normal singing. New research, however, suggests that might not be the case. Researchers from the University of Illinois Hospital and Health Sciences System, led by Dr. H. Steven Sims, wanted to see what effect beatboxing has on the vocal cords. Using a flexible fiber-optic endoscope, the researchers were able to observe images of the vocal tracts of four male beatboxers while they performed a variety of beatbox sounds. In addition, the researchers also used a video camera to record the performances, meaning they were able to see which sounds were linked to specific vocal structures.

The researchers observed that the performers all used their entire vocal tract to create their sounds instead of using only specific areas, meaning they were reducing their risk of injury to any specific area. The performers also kept the glottis – the space between the vocal cords – open. Dr. Sims believes that this suggests that beatboxing could be protective of the vocal cords. Additionally, the performers used their pharyngeal muscles – those which act upon the pharynx, a part of the throat – to lengthen their vocal tract in order to create higher pitch sounds. Dr. Sims says this eliminates some of the stress put on the vocal cords.

Dr. Sims states that many of the techniques that beatboxers use to produce their sounds could help singers reduce some of the stress that is put on their vocal cords. He added, “Singers rely almost exclusively on the vocal cords themselves to produce their sounds, so all the energy involved with singing is concentrated on these structures, which can develop scar tissue with overuse.”

He also adds that if singers used their pharyngeal muscles to lengthen their vocal tract, this may help them reach higher notes before they need to employ the use of their vocal cords, further reducing the risk of injury.

The researchers say that future study may involve the analysis of female beatboxers. Dr. Sims explains that women use their voices differently than men because they have smaller larynxes, and they also have a different shape. “The results could be interesting,” he concluded.

### 2.7.2 The Science behind “beatboxing”

A summary of the *Paralinguistic mechanisms of production in human “beatboxing”: A real-time magnetic resonance imaging study* (Proctor et al. 2013).

The human voice has a long history of using percussive effects in many cultures, including North American scat singing and Celtic *puirt-a-beul*, or “mouth music.” In contemporary pop and rap music, the burgeoning vocal art form of beatboxing is an element of hip-hop culture. According to the researchers, the phonetics of these percussion effects were not examined in detail until their study. For example, they claim that it was unknown to what extent beatboxers produced sounds already used within human language.

To learn more about beatboxing, the scientists analyzed a 27-year-old male performing in real-time using MRI. The study produced 40 recordings, each lasting 20-40 seconds long, as the beatboxer produced all the effects in his repertoire as individual sounds, composite beats, and freestyle combinations of these elements. The data suggested that “the sounds used by our beatboxing artist mirror those found in the diverse sound systems of the world’s many languages,” said researcher, linguist, and speech scientist Michael Proctor.

The subject of this study, ... a speaker of American English and Panamanian Spanish, ... was able to produce a wide range of non-native consonantal sound effects... The effects used... appear to be very similar to consonants... in many African languages, including Xhosa... [from South Africa], Khoekhoe... [Botswana], and !Xóǀ

[Namibia]. The ejectives [bursts of air generated by closing the vocal cords] used ... share the same major phonetic properties as the glottalic egressives used in languages as diverse as Nuxálk... [British Columbia], Chechen... [Chechnya], and Hausa [Nigeria] (Proctor et al, 2013, p. 1050).

Amongst other findings, the research sheds light on the human ability to emulate sounds, and on how the human instincts for music and language can overlap and converge. Speech scientist Doug Whalen at Yale University, who did not participate in the study, added, "it would be nice to know how the beatboxer came by his inventory, and how long it took him to find the articulations that satisfied him. Were they quickly found? Or quite difficult?"

Proctor said that further studies will examine other practitioners of vocal percussion. "One goal is to explore how some beatboxers can create the illusion of multiple instruments, or make percussive noises while simultaneously humming or speaking."

### **3. Purpose and questions**

I wish to test a hypothesis I have developed which is as follows: I believe that people born before 1990 learned beatboxing in a fundamentally different way than those born after that year. The significance of the year 1990 relates to the founding of the video-sharing website YouTube in 2005. I believe that before the advent of YouTube and similar video-sharing websites, the vast majority of beatboxers learned their craft through trial and error, listening to and imitating music recordings, and – when available – via peers, whereas the majority of those born after 1990 learned predominantly via video-sharing websites such as YouTube. I believe that most beatboxers began learning the art form around or after the age of 15, and someone born in 1990 would have been 15 years of age at the time of YouTube's founding.

#### **3.1 Purpose of the Study**

The purpose of this thesis is to ascertain how and when beatboxers learn their art form and if that differs depending on when they were born. I will

also attempt to discern if they in general would have preferred a more methodical and pedagogical structure to their learning.

## **4. Methodology**

### **4.1 Choice of method**

Because there is so little research concerning beatboxing, I have chosen to perform an exploratory study to attempt to acquire as much information as possible.

I have chosen a qualitative method to gain a greater understanding of the field I am studying. According to the pedagogue and researcher Bengt Starrin (1994), the difference between a qualitative and quantitative study is the degree of precision in measurement. This means that data which provide a broad or rough estimation are qualitative, while data giving a precise estimation are quantitative. In the case of better understanding the pedagogy of beatboxing, a qualitative study allows for a broad appraisal of the field. To ultimately find more specific issues and exploring their solutions on a more detailed level can be a question for further research.

As a beatboxer, I am by definition not objective in the scope of this thesis, and a qualitative study allows me to see to what degree my pre-understanding of the subject matter can be of use. “Every understanding must be predicated upon a decided pre-understanding (my translation P.S., Starrin 1994, p.59),” and “to be able to interpret, one must be able to put things in the right context (my translation P.S., Thurén, 2007, p.97).”

I have chosen to perform an open-ended survey with the exception of Question 1 (a numerical question). The questions are standardized – the same questions in the same order to all respondents – and, according to pedagogues Runa Patel and Bo Davidson (2011), have a low structural grade because of the extent to which the questions are open to interpretation depending on the target population’s mind-set and previous experience.

According to author and political science lecturer Rolf Ejvægård (1996), a survey is a good method to simultaneously obtain many replies that may be compared to one another. Surveys are especially useful in gleaning attitudes and opinions.

## 4.2 Structure of the questionnaire

Ejvegård describes a rule of thumb that the more questions one has, the fewer replies one receives. In the interest of obtaining as many replies as possible, I limited the total number of questions to four; one close-ended and three open-ended. Before sending out the final questionnaire, I sent the questions to four beatboxing friends to ascertain if the questions were well-worded, easy to understand, and would satisfactorily answer what I had set out to research. The questions were as follows:

1. In what year were you born?
2. When did you first learn vocal percussion/beatboxing? For example: primary school/high school/university etc.
3. How did you first learn vocal percussion/beatboxing? For example: via a friend, a fellow musician, or teacher/literature/video tutorials/YouTube/workshops/trial and error etc.
4. What, if anything, do you wish had been different about the way you learned it?

Receiving positive feedback and replies from the respondents, I chose to keep the four questions as they were without change.

## 4.3 Selection and limitations

Ejvegård (1996, p.53) states that a survey must be presented to at least 40 people for it to be worthwhile. To facilitate the collection and organization of the impending replies, I created an e-mail address from which all correspondence would be sent and received: [beatboxthesis@gmail.com](mailto:beatboxthesis@gmail.com). To begin my research, I sent the survey to 32 beatboxing friends, from which I received 21 replies.

To reach more people, I posted my questions on various Facebook groups and forums relating to music, beatboxing, and vocal singing: CASA – The Contemporary A Cappella Society (4,029 members at time of publication); Vocal Blog (2,487 members); Shut Your Mouth & Beatbox – SYMAB.com (1,059 “likes”); and Vokalgruppssångare i Sverige (vocal group singers in Sweden) (98 members). I also sent Facebook messages to and posted on several well-known beatboxers’ Facebook profile or fan pages. Through additional research in getting

contact information for well-known beatboxers, I sent several tweets (via Twitter) and e-mails to others I had not yet reached.

It is unfortunately not possible to know the total number of people reached by my questionnaire via e-mail, Twitter, and Facebook forums, groups, and messages. The nature of a Facebook forum's and group's activity is such that only a post by the administrator of that forum or group will show up in its members' Facebook feeds. For someone to have seen my post, they would therefore have had to actively visit the forum or group where I had posted my questionnaire. Thus a group with over 4,000 members may have only resulted in a small number of people reached by my questions. For many of the well-known beatboxers whom I contacted via e-mail, Twitter, and Facebook message, it is also not possible to know if they saw my message, if it went to a spam or "other" folder, or if it merely got "lost in the mail."

#### **4.4 Validity and reliability**

According to Bell (1995, p.63), statistical validity is not of significant importance in a study of this size and scope. What is more important is the critical reviewing of one's own questions with the help of others - in the case of this study, my thesis advisor, classmates in my thesis group, and other beatboxers.

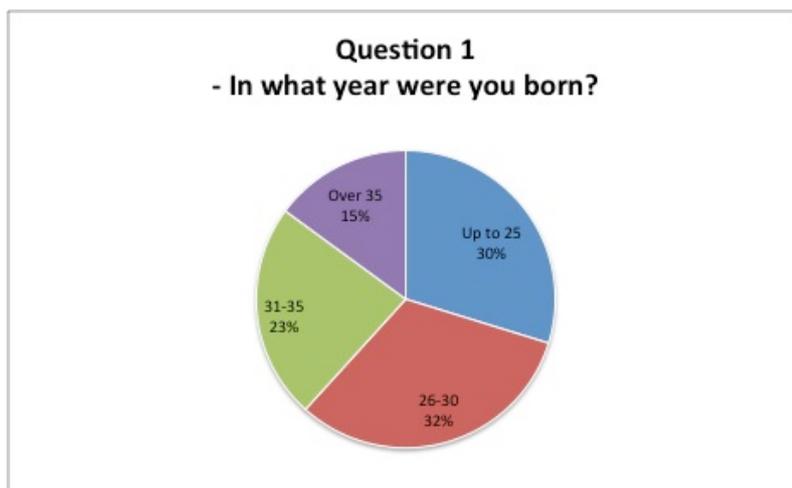
Eliasson (2006, p.15) states that reliability may be achieved if the same questions posed to different people would yield the same results. This is difficult to ascertain in view of the relatively small (47) sample population of this study. However, given the strong trends displayed by the results, i.e. that most respondents first learned beatboxing in high school, that no one cited having first learned from a teacher, etc., I believe there to be a strong reliability to this study. As the vast majority of the respondents (85%) were American, it is possible to conjecture that the results may have appeared differently were there a more balanced nationality distribution. Based on the similar responses between the American and non-American respondents, however, I do not believe this to be the case.

## 5. Results and analysis

A total of 47 respondents completed the survey, and I assigned each respondent a number in the order in which I received their replies. Out of my initial 32 sent e-mails, my answer rate was 21 people (66 %). With regard to those who encountered the questions via an online forum, it is unfortunately not possible to know what percentage answered the survey.

### 5.1 In what year were you born?

Figure 3:



As can be seen from Figure 3, there was a rather even age distribution among the survey population. Approximately one third was up to age 25, roughly one third was between the ages of 26-30, nearly a quarter were between ages 31-35, and 15% (seven respondents) were over age 35.

### 5.2 When did you first learn vocal percussion/beatboxing?

Figure 4:

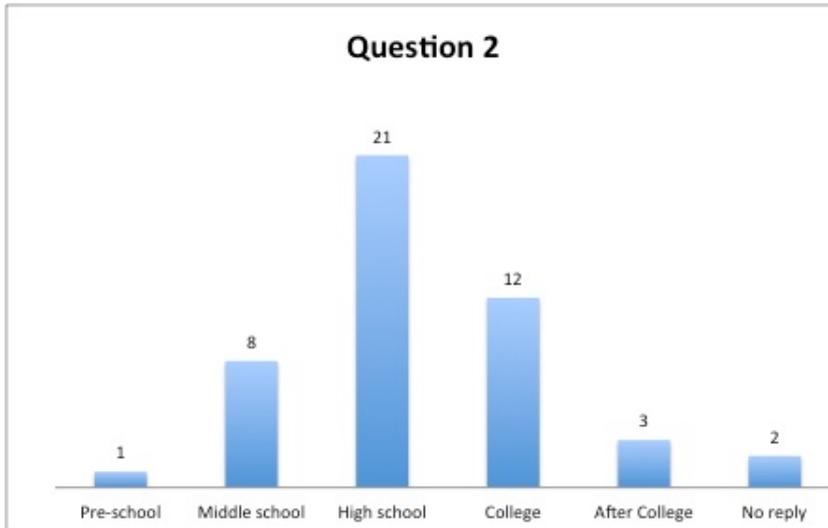


Figure 4 show that the vast majority (33 out of 47) first learned beatboxing either in high school or in college. Respondent #42 wrote that they began imitating their father making percussion sounds while listening to the radio in the car while in pre-school. Respondent #12 states that they were homeschooled, and thus could not be accurately placed in the above categories, and another did not answer the question; they were both classified as “No reply.”

Figure 5:

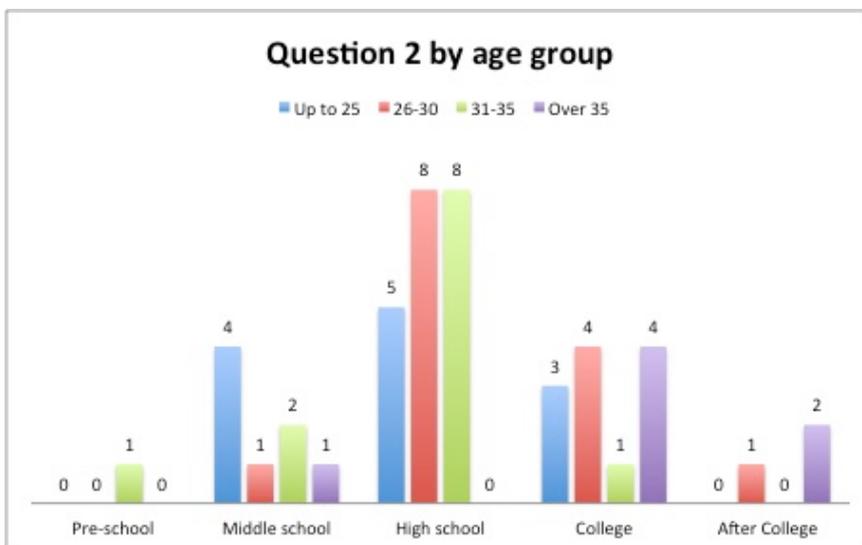


Figure 5 expounds on Figure 4 by analyzing when respondents first learned beatboxing in relation to their current age. There is a relatively even distribution for those up to 25 years of age having learned between middle school and college, while the majority of those aged between 26-30 and 31-35 learned while in high school or college. As a whole, almost all of the respondents over the age of 35

learned beatboxing later than the aforementioned age groups, beginning either in college or afterwards.

### 5.3 How did you first learn vocal percussion/beatboxing?

As Question 3 was open-ended in nature, respondents were free to list more than one answer; thus one respondent may have said they were both self-taught and had learned beatboxing via a peer. Many respondents cited YouTube and other video-sharing websites as their principal method of learning beatboxing. I classified this, along with listening to and imitating music on the radio, reading literature, tutorials and blogs, and watching instructional videos, as being self-taught. Additionally, I found that most of the respondents tended to answer more how they learned beatboxing as an entire learning process rather than how they first learned (as stated in the question).

Figure 6:

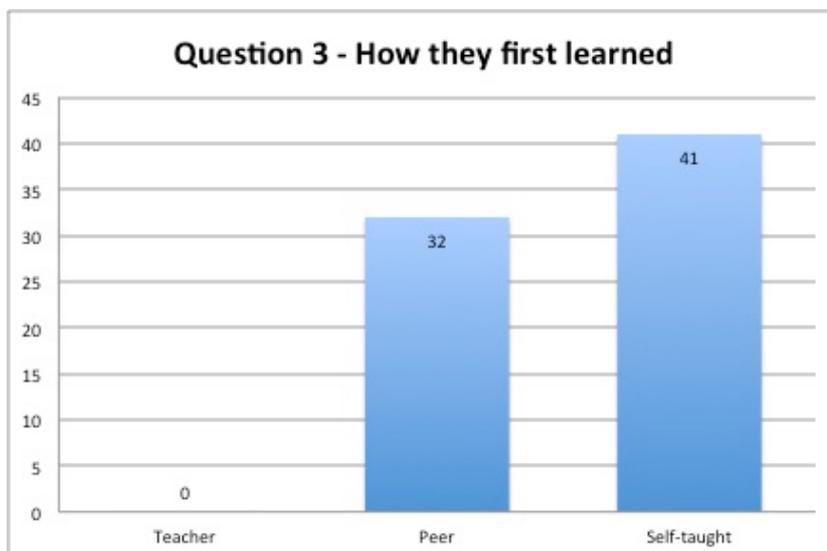


Figure 6 illustrates how no respondent said they had initially learned from a teacher, although respondent #26 did state that they later studied with a music educator. 68% of the respondents said they had learned from a peer (a friend or fellow musician), while 87% said they were self-taught (citing YouTube or other digital media, instructional videos, imitating percussion on the radio, etc.). 100% of the respondents thus fall into either the category “peer” or “self-taught.”

Figure 7:

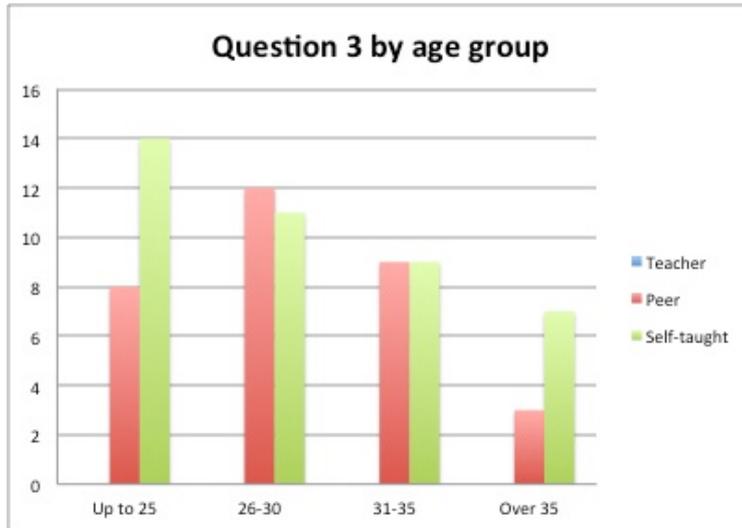


Figure 7 further explores Figure 6 vis à vis the different age groups. The frequency of a respondent being self-taught or having learned from a peer is nearly equal for the age groups between 26-30 and 31-35 years of age. However, the difference between these two methods of learning is more pronounced amongst those up to 25 years old and those over the age of 35, with both age groups being dominated by those considering themselves self-taught.

### 5.3.1 Summary of selected responses for Question 3

Respondent #2 noted that having YouTube as a resource was highly advantageous. It let them learn on their own time, without judgment from themselves or from other people, until they felt confident that they at least had a grasp of beatboxing basics.

Respondent #27 stated that since YouTube did not exist when they were learning, they listened to and imitated what they heard on recordings of both vocal percussionists and drummers.

Respondent #34 wrote that beatboxing is personal and that, despite all that which can be taught, there are an infinite number of things one must learn by oneself.

## 5.4 What, if anything, do you wish had been different about the way you learned it?

As Question 4 was open-ended in nature, respondents were free to list more than one answer; thus one respondent may for example say that they both would have preferred to have a more formal beatboxing education as well as having started learning the art form earlier. As this was a qualitative question, I summarized what the respondents answered into two main categories in addition to three smaller ones for ease of analysis.

Figure 8:

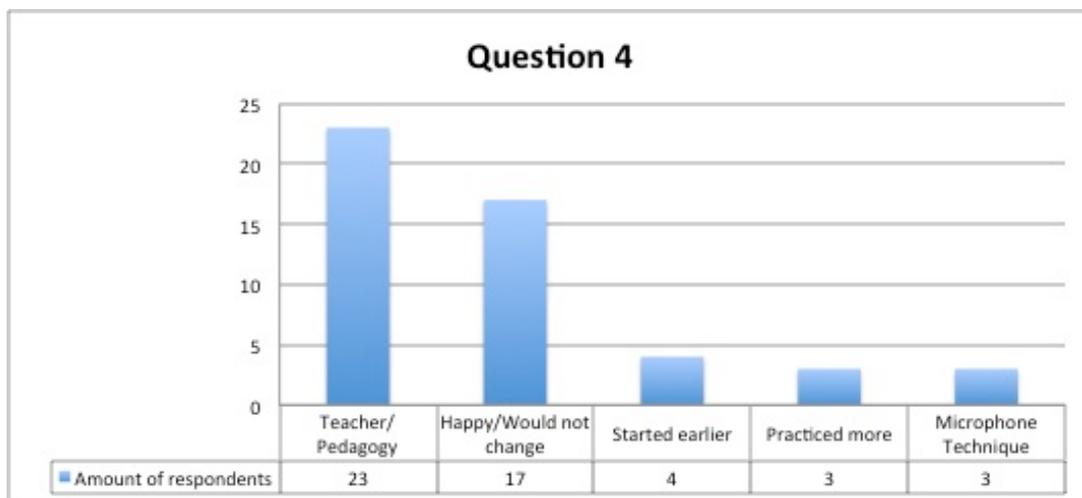


Figure 8 shows that the overwhelming majority of respondents answered in a similar manner to one another, i.e. they would either have preferred a dedicated teacher or mentor and/or greater structure, more thorough progression, or a stronger focus on beatboxing basics, or they were happy with and would not change the way they learned.

Figure 9:

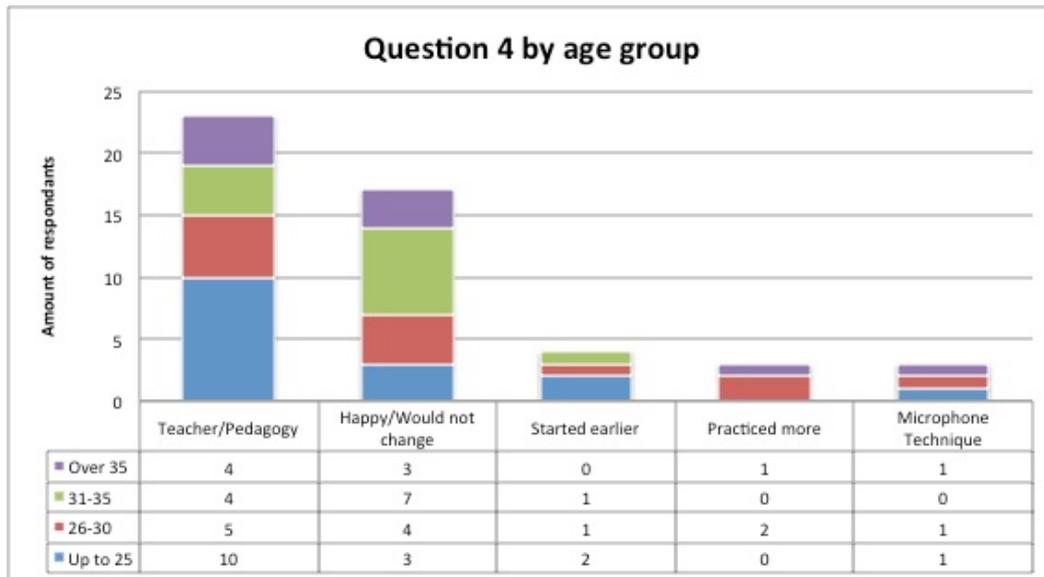


Figure 9 specifies what – if anything – the respondents would have changed based upon their age. The majority of those up to age 25 said they either would have liked a teacher or a mentor, or a stronger pedagogical structure, progression, or focus on basics, while only three said they were happy or would not have changed anything. For respondents aged 26-30 and over 35, the number of those who wish they had a teacher or greater pedagogy was roughly equal to the number of those who were happy or would not change the way they learned, with both groups slightly favoring a teacher or greater pedagogy. Those aged 31-35 were the one demographic where more respondents were satisfied with the way they learned and would not have wished for a teacher or greater pedagogy. Ten respondents specifically stated they would have liked to have started earlier, had practiced more, or had started working earlier on microphone technique.

#### 5.4.1 Summary of selected responses for Question 4

Respondent #2 stated that they wished there were more female beatboxers prevalent and, more importantly, teaching the art form.

Respondent #5 said that they would have liked a more gradual order in their learning from the basics to more advanced aspects. They posited that it is important to have a solid grasp of the fundamental sounds – such as the kick drum, snare drum, and hi-hat – before moving on to more complicated rhythms.

Respondent #16 stated that they were unaware of others – either during the time the respondent was learning or today – who had made a formal study of beatboxing, saying that even those who practiced with intent lacked methodology, did not make use of percussion books, and didn't take lessons. The respondent thus summarized that there wasn't any recognized way of learning beatboxing.

Respondent #24 said, "I really wish there had been an actual teacher involved in me learning to beatbox. There are classical voice lessons one can take and there are well-known schools of thought about psychology, but there are few, if any, actual teachers or literature for someone who would like to learn to beatbox."

Respondent #41 remarked upon the fact that many of the other beatboxers whom they encountered had very different styles or approaches for the same sounds. The respondent believed this to be the case because others like themselves were all self-taught, "and I can't think of another instrument that's like that."

## **5.5 Summary of the results**

There was a relatively even age distribution among the respondents: 30% were up to the age of 25; 32% were aged 26-30 years old; 23% were aged 31-35; and 15% were over the age of 35. There was at least one respondent born every year from 1977 to 1997, a twenty-year span, in addition to one each born in 1969, 1970, and 1975. The year with the most respondents born was 1987 (five), with both 1984 and 1988 having four respondents each.

The majority of respondents learned beatboxing in high school, followed by college and middle school. Only three had learned after college. Those up to the age of 25 learned nearly equally during middle school, high school, and college. Those between the ages of 26-30 learned predominantly in high school, while nearly a third learned in college. Two thirds of all respondents aged 31-35 learned in high school, while the others were distributed nearly evenly among pre-school, middle school, and college. All but one of those aged over 35 learned either in college or afterwards.

Every respondent said they were either self- or peer-taught, with no one having been initially taught by a teacher; one respondent said they had later

taken lessons with a music educator. The vast majority of those aged up to 25 and over 35 classified themselves as self-taught, while those aged between 26-30 and 31-35 cited self- and peer-taught equally.

When asked what, if anything, the respondents would change about the way they learned beatboxing, the most common answer (49%) was a wish for greater pedagogy, either in the form of a teacher or a mentor or a greater focus on the basics and a structured progression. 36% of the respondents said that they were happy with the way they had learned and that they would not change anything.

## 6. Discussion

### 6.1 When did they learn?

Of the entire sample population, 29 (62%) said they started learning beatboxing during their youth in either middle school or high school; if we include those who learned while at university, the number increases to 41 (87%). This coincides with Lilliestam's claim that many people develop their strongest tastes and deepest musical connections during their youth. Pop music and hip-hop were the dominant musical genres of the 1990s and early 2000s, with strong, recognizable rhythms and beats characteristic features of the genres. The time span of when the majority of the sample population began learning beatboxing coincides with the popularity of these musical genres.

Writing in the foreword to *A Cappella Pop* (McDonald, 2012), Deke Sharon says that contemporary a cappella was born and developed on college campuses. 12 (27%) of the sample population first learned beatboxing while at university, and while Sharon's claim may have been true in the past, the data show that more beatboxers are learning their trade at a younger age. 8 (18%) of the respondents began learning in middle school, while 21 (45%) had already begun in high school. I attribute this demographic shift to the ever-increasing availability of beatboxing performances on the Internet as well as the abundance of music-related television programming franchises since the turn of the century (*Idol* (international debut 2001), *The X-Factor* (2004), *The Sing-Off* (2009), *The Voice* (2010), etc.).

### 6.2 How did they learn?

Writing in his book *A Cappella Arranging* (2012), Sharon states that beatboxing is an aural tradition best learned and practiced by ear, and the responses fully validate this claim. No respondent cited sheet music or other notated material as a resource when learning beatboxing. This also correlates to Robert Schenck's assertion that many types of learning are best achieved through imitation, as 32 (68%) of the respondents cited learning from peers as the method by which they first learned beatboxing.

In describing the traditions of folk musicians and the role of imitation as the building blocks to learning, Schenck (2000) explains that through their own personality and creativity, the students made the songs their own. 41 (87%) of the sample population said they were self-taught (with several of these respondents also citing peers as a source of their education), and this emphasis on the individual was mirrored in the styles they developed. For example, respondent #10 stated that they refined their own beatboxing technique based on private experimentation coupled with learning from others who influenced them.

After picking up pointers from a renowned beatboxer, respondent #34 said that they went off to create their own sounds and style. With the advent and ever-increasing popularity of international beatboxing competitions, Internet forums, and workshops, the opportunity to engage with and learn from other beatboxers represents a clear manner in which this art form is constantly evolving. In reference to the creativity and personality of folk music students, Schenck believes that their playing style and musical tradition are constantly changing and developing, precisely like a living language does, and I believe this phenomenon applies equally to beatboxers.

In *Characteristics of the beatboxing vocal style* (2008), authors Dan Stowell and Mark Plumbley note that the beatboxer's primary aim is to produce convincing impersonations of drums and other sounds, which leads them to conceal the signs that the source is a human voice. Nearly a quarter of the respondents (23%) stated that a way they learned beatboxing was by listening to and imitating what they heard on the radio or via other media, including music not a cappella- or beatbox-centric. I believe thus that one of the respondents' chief aims was to sound like the physical percussion instruments they were attempting to emulate.

In their book *Folkmusik i Sverige* (2005), ethnomusicologists Dan Lundberg and Gunnar Ternhag talk about the passing down of knowledge from two perspectives, the vertical (typically from an older person to a younger) and horizontal (between people of the same generation). The data show that horizontal passing down is indeed prevalent in regard to the learning of beatboxing, with 32 (68%) of the sample population citing peers as a building block in their education.

### 6.3 What do they wish would have been different?

68% of the respondents said they had learned beatboxing from peers, and when asked what, if anything, they wished had been different about the way they learned, 49% of the sample population said they wished they had had a teacher or mentor, or that there had been a greater pedagogy behind their learning. As described by my model for how people learn music (Figure 2), one of the greatest benefits of having a teacher is being provided with a methodical and structured learning environment based on the teacher's own education and experiences. Teachers guide their students progressively from the basics to more challenging skills and are capable of adjusting their approach depending on the student's needs. This is in contrast to a peer who, regardless of their talent and ability, is less likely to be able to tailor their instruction when asked how to make a specific sound or how to employ a certain technique if and when the student encounters difficulty. Learning from online media lacks the two-way communication of a teacher or peer, and it can be very difficult to elicit assistance when met with a learning obstacle.

Respondent #37 said they wished they could go back and begin with learning the basics since they had first rushed into the more advanced sound effects. Similarly, respondent #5 wished for a structured program allowing for more gradual advancement. Respondent #24 answered that they wished there had been an actual teacher involved in their beatbox education, and that while one can take classical voice lessons, there are few, if any, actual teachers or literature available for someone interested in learning to beatbox. Respondent #16 said that they were unaware of people who had made a formal study of beatboxing, and that even those who were actively engaged in its practice lacked methodology and pedagogy. The same respondent also stated that they did not believe there to be any singular, recognized way of learning beatboxing. In the foreword to *A Cappella Pop* (McDonald, 2012), Deke Sharon poses a question which lies at the crux of this thesis: "people began to teach these new musical forms, although they themselves had not been formally educated in a scholastic environment. How does one translate knowledge and experience into a successful methodical pedagogy?" Until beatboxing becomes an instrument one can study as a music pedagogue, the art form will continue to struggle with these issues. A step in the right direction could be the new BA program in performance and creative enterprise at Guildhall, which will offer beatboxing as an option for a major instrument.

## 6.4 Gender and beatboxing

I had hoped there would be a greater number of female respondents –there were five in total – to add more diversity to the sample population, yet I believe this percentage is representative of the overall gender diversity in beatboxing. As both Lars Lilliestam (*Musikliv*, 2009) and Hargreaves and North (*The Social Psychology of Music*, 1997) state, there is a pre-conceived notion in society that drums and percussion are viewed as masculine instruments, and I believe that perception applies to beatboxing, as well. According to the results of my study, beatboxing tends to follow the stereotypical gender role of playing the drums, and that potentially the smaller number of female artists to be found is due to these societal norms and stereotypes.

Respondent #2 wrote that while her all-female a cappella group had only started using beatboxing during her junior year, the male groups had been using it for a while before then. According to her, the typical sound of female groups at the time was more focused on Motown and softer ballads, which did not necessitate the use of beatboxing. She expressed a desire for more “high-powered” female groups employing beatboxing to serve as an inspiration to her and her group, and that she believes there are more such groups in existence today.

## 6.5 My hypothesis

My original hypothesis regarding how people of a certain age learn beatboxing was as follows: I believe that people born before 1990 learned beatboxing in a fundamentally different way than those born after that year. The founding of YouTube in 2005 means that someone born in 1990 would have then been 15 years old, the age at which I believe most people begin learning beatboxing. Prior to the advent of global video-sharing websites, I believe that those born before 1990 would have predominantly learned in or around their geographical location via peers. As previously illustrated, 100% of the respondents replied that they had first learned beatboxing either from a peer or by themselves. My theory may best be addressed through Figure 5 above.

64% of the respondents (14 of 22) born in 1990 or later (up to 25 years old) cited that they were primarily self-taught, that is to say without the aid of peers; 36% cited a peer as their main source of learning. A similar distribution, however, was found in the respondents over the age of 35. 70% (7 of 10) classified themselves as

self-taught whereas 30% said they were peer-taught. For those respondents aged 26-30 and 31-35, the relationship between self- and peer-taught was either slightly in favor of those who were self-taught (ages 26-30) or equal (ages 31-35).

While my theory is generally true for those born in 1990 or later, the significant proportion of self-taught respondents over the age of 35 means that the theory in the scope of this study is disproved.

These findings led me to wonder why people born in 1990 or later as well as those born in 1979 or earlier had learned in a similar way (predominantly self-taught), while those born between 1980-1989 cited themselves equally as self- and peer-taught. As previously stated, the overriding majority of respondents (and I thus extrapolate that the beatboxing population in general) learned the art form in college or earlier. Those born in 1979 or earlier had for the most part already graduated college at the time of YouTube's and other video-sharing websites' emergence. Prior to beatboxing's global spread, people interested in learning the art form were limited to those they personally knew who were involved in it, if they had happened to hear of it, or if they had met someone outside their geographical location; all of these factors for the ability to learn beatboxing became moot upon the arrival of the YouTube-era. During beatboxing's infancy in the 1980s and into the 1990s, someone without any knowledgeable peers wanting to learn had thus little resource other than their own creativity and inventiveness.

Prior to the YouTube-era yet as beatboxing began becoming more mainstream, it became more common that someone with a budding interest in beatboxing knew or could come in contact with someone else involved in it. I personally first came into contact with beatboxing during my freshman year of high school in 1998-1999 through a friend who was inspired by Bobby McFerrin, the spread of music via music-sharing services such as Napster, as well as listening to collegiate a cappella albums. Gradually more and more of my friends began experimenting with beatboxing, providing us with a forum for our continued interest and development. During rehearsals for the Connecticut All-State Festival (where I participated in the choir) in the spring of 2002, I met other high school students interested in beatboxing with whom I exchanged tips and tricks.

All of a sudden with the dawn of the YouTube-era, people beatboxing from around the globe could be used to further anyone's own ability. I distinctly recall being inspired by a beatboxing contestant on the French version of American Idol

performing a medley of popular songs, and I later was deemed to have “won” an impromptu beatbox battle on the streets of Washington, DC performing an adapted medley of the Frenchman’s performance.

But with seemingly more and more people actively engaged in beatboxing and the potential for learning from peers, why did a great percentage of the survey respondents aged up to 25 years old cite themselves as self-taught? I believe the data show the ever-increasing trend of our time of learning on one’s own through digital sources. Today, if a student (academic or music) of any age wants to know something, Google, Wikipedia, and YouTube are among the easiest and fastest mediums through which to obtain knowledge. With readily available online blogs and tutorials conveying almost any skill and talent imaginable, the generation that grew up with the Internet has, in general, a greater proclivity to find information from the web rather than through books or peers. And I believe this explains why the majority of respondents aged up to 25 stated that they were self-taught.

## **6.5 Method discussion**

Overall it proved very difficult to get people to reply to my questionnaire. For example, where I had posted the questions on Facebook forums, many people “tagged” friends (a way of notifying someone about a particular post) in the hope of them seeing and replying to my post, yet ultimately very few of those people tagged replied. As I personally have found myself put off by people posting the same message multiple times in a Facebook forum, I decided against this. However, had I posted the questionnaire multiple times, my response rate may have been higher. Additionally, I had to remind (several times) many of my friends and acquaintances to whom I had sent the questionnaire to answer it.

As the total number of beatboxers worldwide is proportionally rather small and spread out given its burgeoning status as an art form, it was difficult to reach many people to answer my questionnaire. However, I do not believe there was another way of reaching out which would have yielded a greater response.

## 7. Conclusions and further research

This study found that the beatboxers surveyed were either self-taught or have learned this art form from their peers outside of the traditional learning environment associated with most other musical disciplines. At the same time, approximately half of those surveyed would have desired a more methodical and structured pedagogy to the way they learned.

I am personally content with the way in which I learned beatboxing, namely through a combination of trial and error, help and advice from peers, instructional DVDs, and, later, YouTube videos. This notwithstanding, I believe I would have enjoyed and benefitted from a more methodical and pedagogical approach to beatboxing were that a viable option at the time. I think it would be an interesting follow-up to this study to discover if those respondents who said they were either happy with or would not change anything would feel the same way had a more pedagogical method been available to them.

Only 11% of the respondents were female and, based on my own experiences as a beatboxer as well as conversations with others, I believe this figure to be a reasonably accurate indicator of the total proportion of female beatboxers today. Recognizing that the societal definitions between what is traditionally viewed as “masculine” and “feminine” are becoming more and more ambiguous, a topic for future research could be a more wide-spanning study on the number of female beatboxers active in five years compared to today.

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