Subject: Is the difference in sound quality all in our head?
Posted by TheWanderer on Mon, 07 Jan 2019 17:58:53 GMT
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I just read an interesting article about the psychological impact of audio quality. Here's an excerpt from the article that sums up what his argument is:

"No one has ever produced a scientifically controlled listening test showing that well-designed amplifiers (flat response, no clipping), preamplifiers, integrated circuits, and speaker wires (16-gauge and bigger) have the slightest effect on the sound being produced. Special capacitors, absolute polarity, dots, clamps, green pens, bricks, and assorted other things also won't change the sound from a stereo or home-theater system, although people can be made to think so. Why? Listener bias can make people hear unverifiable "differences" in sound. "

Thoughts?

Subject: Re: Is the difference in sound quality all in our head?
Posted by gofar99 on Mon, 07 Jan 2019 20:43:16 GMT
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Hi, IMO the author of the article has 6 transistor radio ears. I agree that many things do not seem to matter, but equally many do. My personal experience has been that coupling capacitors do have a significant sonic signature and will alter the sound. Absolute polarity does as well. My system allows for easy swapping polarity (most don't). The polarity is sometimes difficult to determine with many recordings. With well done stereo recordings that have a singer in the center it will often show up as to whether the singer is in front or behind a line drawn between the speakers. Correct phasing will normally put the singer in front and supporting musicians slightly to the rear or in line with the speakers. This does require that the system is set up well and has flat response in that frequency range. Unfortunately again not all recording studios are consistent in the phase and worse some try to make it zero. In that case you lose a lot of the ambience and depth of the original presentation. With ear phones the issue is not really significant as few (except special ones that cover the whole ear and have multiple drivers) can distinguish the difference.

Subject: Re: Is the difference in sound quality all in our head?
Posted by Wayne Parham on Mon, 07 Jan 2019 23:28:27 GMT

I've studied this for my entire adult life.

My conclusions are that:

1. We can measure things that we cannot hear.
2. Some of the things we can measure matter more than others.

So I can reach a few conclusions from this:

1. If I cannot measure a difference, then I certainly cannot hear a difference.
2. If I can measure a difference, then I may or may not be able to hear a difference.
3. To tell how audible a measurable difference makes, one can employ subjective blind listening tests. That will help determine what is audible, and by how much.

Subject: Re: Is the difference in sound quality all in our head?
Posted by musicluvr on Wed, 13 Feb 2019 14:24:43 GMT

Are you a sound engineer, Wayne? Or maybe you're a mechanical engineer? You and gofar99 seem incredibly knowledgeable about the mechanics and science of audio and video so I figured it must be involved in your careers or at least something you studied. I appreciate that you both share your knowledge so easily.

Subject: Re: Is the difference in sound quality all in our head?
Posted by Rusty on Wed, 13 Feb 2019 16:29:46 GMT

I found this article from the Kabusa website about the myth of, "measurement does not reveal fidelity". A great explanation for the validity of the right measurement for what is perceived. Many audio mavens scoff at measurement and proper blind subjective listening studies. Especially all those high end cable magicians.

Quote:Myth Statement
Measurements do not reveal fidelity

Many audiophiles like to embrace the myth that measurements cannot tell you what something will sound like. They like to reflect on the Total Harmonic Distortion competition that amplifiers follied with in the 1970's. True, in the early 70's THD was the only "quality" specification used, but it soon proved to be insufficient. If you look at the complete history, you would find that in the mid 70's a new quality measurement was introduced. This was Intermodulation Distortion. Striding for low THD's engineers chained together many gain stages in series and closed a global feedback loop around them. Intermodulation occurs when the distortion cancelling feedback signal arrives

too late to make a complete cancellation. With the introduction of IM testing, the THD wars ended abruptly. And those horrible sounding amplifiers, started to sound nice again. We can all thank Crown corporation for that. You can google it: Crown IMA Intermodulation distortion meter.

History teaches us a couple of things. First it shows that no 2 people hear the same thing the same way. There were many who thought those 0.00001% THD amps sounded fine. But there were others that were certain something was wrong with them. For those that had doubts, some stayed with older designs while others pushed on and found a technical reason and a solution to their dissatisfaction. That is how progress works.

The moral of the story is, when you make the right measurements, you get the right answer. And when your ears tell you that something is wrong, hard work will generally find a measurement to match it. There is never any justification to not measure. None. If Crown never did the hard work, we would still believe that the only way to get good sound was with zero global feedback. And while there are those that still believe that, Crown proved that there was another way.

Subject: Re: Is the difference in sound quality all in our head?
Posted by Wayne Parham on Wed, 13 Feb 2019 17:10:12 GMT
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That's all very true, Rusty. Glad you posted it.

The audibility of distortions and anomalies could be and should be viewed as a weighted set, with the most audible things factoring in more than the least audible things.

It's relatively easy to measure THD+noise, which is why it has been used as a quality test for so long. But if a system generated 10% second-harmonics and no noise or any other anomalies, the system would sound much better than a system that had 2% noise or high/odd harmonics. And like you said, intermodulation distortion is more audible than low harmonics too, especially even ones.

This is a set of anomalies in order of audibility:

1. High-level noise (completely unrelated to content)
2. Flutter, dropouts, etc. (usually caused by malfunction)
3. Dissonant signals (similar to noise, but may be related to content, just not by harmonics)
4. Large peaks in amplitude response
5. Intermodulation distortion (intermodulation creates dissonant signals)
6. High-harmonics distortion
7. Odd-harmonics (the higher, the worse it is)
8. Large holes in amplitude response (like missing treble)
9. Even-harmonics (again, higher is worse)
10. Low-level hum (usually related to power, ground or shielding)
11. Low-level white or pink noise (hiss)

Of course, if you have an extreme problem in one of the low-weighted areas, it may be more

audible than a small problem in one of the higher-weighted anomalies. This list describes an approximate order of precedence if the content of each of the problem areas are approximately equal.

Subject: Re: Is the difference in sound quality all in our head?
Posted by Miami on Sun, 17 Nov 2019 21:00:13 GMT
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There is a lot of learning material in this thread.

A layman would put it this way though: A sound that is produced is going to sound differently than when it is presented through a transmitter. I don't see any way how that can not be true The difference within lies with how it is presented and there are many different mediums at this point.

Conclusion: Different aspects of different systems will make a difference in the sound.

Subject: Re: Is the difference in sound quality all in our head?
Posted by Kingfish on Wed, 15 Apr 2020 18:01:12 GMT
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There are two types of musical productions: One produced by Daniel Lanois, and the others that are not.

To hear the difference will answer the question. No. It's not all in your head. You may or may not like the sound of the music the way he produces it, but there is no denying there is a presentable and clear difference.

If you have any questions, listen to "Most Of The Time", and then anything else Dylan did without Lanois.

Subject: Re: Is the difference in sound quality all in our head?
Posted by Clint on Wed, 08 Apr 2026 02:18:57 GMT
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Wayne Parham wrote on Mon, 07 January 2019 17:28
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I strongly agree with your point 3 that a properly controlled blind test will go a long way in bridging the gap between perception and measurement.

Non blinded tests are often biased as a result of expectations arsing from visual cues, prices of equipments and even equipment brand choices

I am not saying that blind tests are the ultimate method here, but it is a far better option than the visual testing method.
