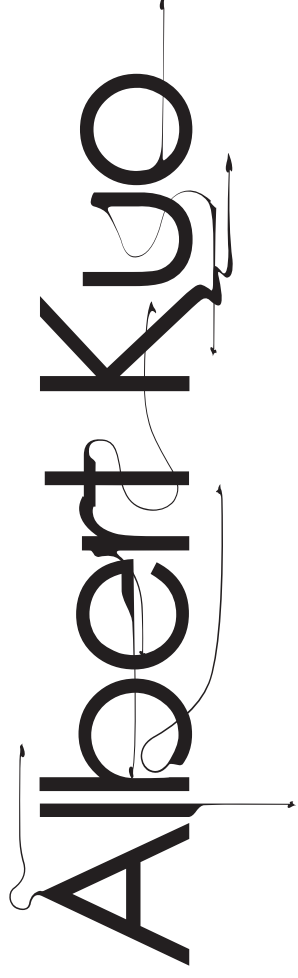
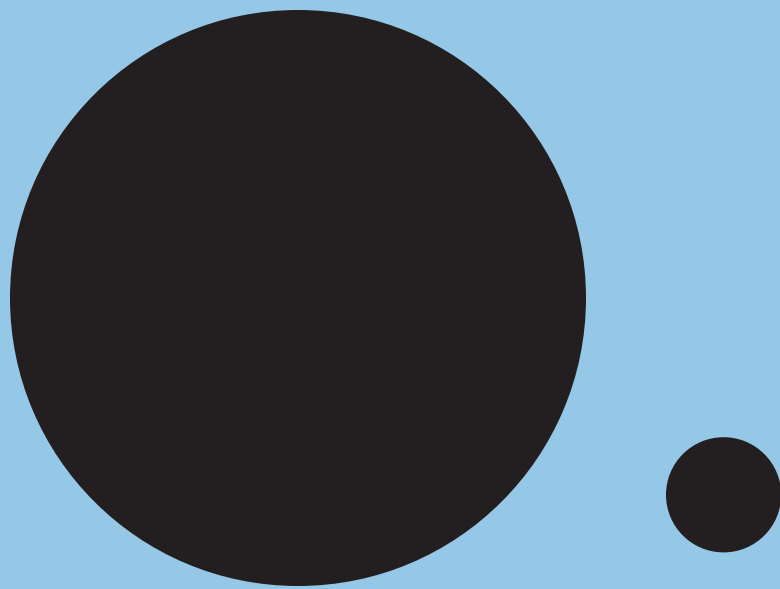


Albert Kuo

The image shows the name 'Albert Kuo' in a bold, black, sans-serif font. Overlaid on the text are several thin, grey lines and arrows that illustrate the calligraphic strokes and directions for writing each letter. For 'A', a vertical line descends from the top, and a horizontal line crosses it. For 'l', a vertical line descends from the top. For 'b', a vertical line descends from the top, and a curved line starts from the middle of the vertical line, loops around, and ends with an arrow pointing right. For 'e', a curved line starts from the middle of the vertical line, loops around, and ends with an arrow pointing right. For 'r', a curved line starts from the middle of the vertical line, loops around, and ends with an arrow pointing right. For 't', a vertical line descends from the top, and a horizontal line crosses it. For 'K', a vertical line descends from the top, and a horizontal line crosses it. For 'u', a curved line starts from the middle of the vertical line, loops around, and ends with an arrow pointing right. For 'o', a curved line starts from the middle of the vertical line, loops around, and ends with an arrow pointing right.

The Sound Within:

Tuning the mind with every note





A wave of applause rings as Camille Chien, a 9th-grade flautist, steps onto the stage of Carnegie Hall. Her racing heartbeat echoes through the countless rows of audience whom she can't discern. Among the sea of faces, many of which are highly esteemed musicians hailing from top conservatories like Juilliard, their ears eagerly open as a fox's to the slightest mistake. However, the audience doesn't realize that performing at Carnegie Hall is just one of Camille's achievements.

Aside from music, she participates in her school's speech and debate program, takes rigorous high school courses, and has to reach her parents' expectations of success. With this, Camille faces immense pressure. Not only does she have to succeed in various subjects, but she is also in a mental battle with self-esteem. If she constantly compares herself to others, stress and anxiety will silently accumulate, thus Camille must find outlets for relaxation.

According to a survey of students of the Conservatorium Van Amsterdam, students who had a "prevalence rate of 61.1%" for depressive symptoms" (Kegelaers) showed a score of 35 on the Connor-Davidson resilience scale.

On the other hand, professional musicians had a "38.5 prevalence rate for depressive symptoms" (Kegelaers) and a resilience score of 38.9, significantly higher than the scores of the students.

With a schedule as dense and as high pressured as ice, Camille must use her free time wisely, often in the form of scrolling instantly gratifying applications on her smartphone, such as Instagram and TikTok. Not only are individuals like Camille struggling to escape the perpetual realms of the past and the future.

Whether it be the burden of that failed job interview with the side commentary being played back in your head at a speed faster than light or fretting about that singular red mark on your driver's license test which stood out

like a red poppy amongst the meadows, playing an instrument can be a powerful way to quiet those thoughts.

At the end of Camille's exhausting day, when her ice-dense schedule has melted into water, Camille wearily picks up her flute and starts practicing. As her flute keys are sequentially pressed down according to the intricately marked notes of Pergolesi's Concerto in G major, her auditory cortex and cerebellum are activated, increasing her attentiveness to slight nuances in her sound. The meditative circulatory breathing she utilizes, playing the flute instantly disintegrates her accumulated anxiety and stress, bringing pleasant melodies that begin to waft. Camille is brought pleasure, giving her a sense of accomplishment, which boosts her self-esteem.



Picture this. You are on a stage where people eagerly watch you blow up a balloon. Yes, those bright red ones that are used at your birthday party. However, there's a catch. For each balloon you successfully blow up without taking a new breath, you have to blow one more balloon in succession, taking a new breath in a matter of milliseconds. Sounds excruciating, right? Not only does Camille have to focus on blowing out air over extended periods, but she has to conserve the amount of air she blows out by utilizing techniques such as circular breathing. According to Chien, "you have to relax your entire body and be in touch with where your air is going."

"If you play any instrument and your body isn't relaxed, the sound you produce will be unnatural and unpleasant"

Playing the flute, which requires the flautist to concentrate on "deep, controlled breaths" (Krishnan), can promote the unconscious relaxation of your body while playing. In a sense, the flautist enters a "form of meditation" (Krishnan) where their mind gets rid of stressful thoughts. The meditative practices of playing an instrument have also been used by violinists, most notably the 1921 Nobel Prize winner Albert Einstein. Einstein, who began learning the violin at age 6, continued his instrumental studies and practice while he was pursuing physics. Einstein quotes,

"Imagination is more important than knowledge".

By continuing to play the violin, he allows his brain "to readjust the balance" (White) of constant anxiety from complex scientific endeavors, hence "[getting] the most joy of [his] life out of music" (Waldrop).

Thus, Einstein approaches his scientific problems without the "same level of thinking that created them" (Sachetta), diminishing his constant anxiety.

Einstein stated himself that "he hadn't been a scientist, he would certainly have been a musician" (Waldrop). Although Einstein was only an amateur violinist, he knew auditory, perceptual, and physical cognitive attentiveness was necessary to breathe life into music. Whether that be discerning a mezzo forte from FORTE, reading the countless sharps and flats reminiscent of marching ants across Beethoven's string quartet no. 16, or the slightest nuance in bow pressure, the musician has to know what they are doing consciously.



Camille often faces pressure from her peers and parents to succeed across various subjects, including speech and debate, academics, and sports. This pressure is held above Camille's head like a large stone. If she fails to hold up this stone, the stone will come crashing down; her strict parents will prohibit her from doing other activities until her work is complete, and she will face constant lectures about being lazy. As the stone slowly breaks apart into smaller pieces, Camille becomes more swamped by thoughts of her peers who have been able to balance all their workload and yet have no pressure. The accumulation of this is a low self-image. However, her flute journey has empowered her, gaining proficiency in a skill which requires hours of dedication.

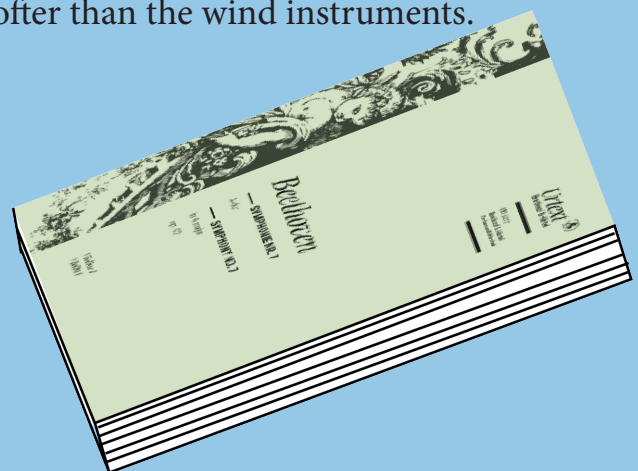
“Your identity and value depend more on how you pursue things, how you look at things, and how you love them, not just what you do”



Conductor Dr. Yun Song Tay's baton soars like an eagle over musicians of the Golden State Youth Orchestra, as they anticipate the final measures of Beethoven's Symphony no.7. Each musician watches the baton with attentiveness; the wind musicians frantically gasping for air as they anticipate the next downbeat, the percussionists ready their sticks, and the sea of synchronized violin bow movement brings alive the tumultuousness of the finale. According to violinist Ryan Chan,

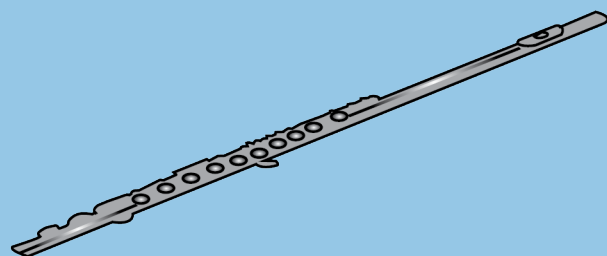
“You are in a state where you have to listen to other instruments for cues to stay on track, pay attention to special bowings or dynamic markings, and have the technical ability to keep up with your section during fast parts”

By paying attention to these details, Ryan's brain's left and right hemispheres are stimulated to operate together. For example, during a section of Beethoven's Symphony no.7 where there is counterpoint between the string instruments and the wind instruments, the tonotopic map which acts as his auditory cortex's "map of different pitches" (Levitin) allows his brain's left hemisphere to fire signals to his right hemisphere's motor cortex simultaneously to play softer than the wind instruments.



As Ryan and Camille grow up in the ever-changing world of rapid technological development, they come to realize that fewer and fewer young individuals are willing to patiently set aside their time to learn an instrument, especially to practice “40 hours a day” (Chan). In our Tech savvy world, where their phones and devices act as their life jackets, a quick verbal injection into Chat-GPT or Google about the answer to a math problem can save them from drowning in the deep abyss of the hours that lurk in their free time as the problems get progressively challenging. However, as these generations of young individuals grow up, they end up with underdeveloped cognitive abilities, such as being able to read and write, process information, and stay focused. According to a recent report by the National Assessment of Educational Progress, the number of eighth graders who were “below ‘basic’ metric” (Rubin 2025) comprehension scores went from “25% to 33% in 2002-2024” (Schrag), respectively.

What young individuals should realize is that their brains have the sponge-like ability to “soak up any and all sounds they can and [incorporate] them into the very structure of [their] neural wiring” (Levitin). Just like the saying, “you can’t teach an old dog new tricks”, as people age, “[their] neural circuits become less pliable” (Levitin), thus learning to play an instrument may be the new life-savers of the generations of youth to come.



About the Author



Albert Kuo is a junior at Los Altos High School and Freestyle Academy. He studies piano under Termizhan Yerzhanov at the Community School of Music and Arts and John McCarthy at San Francisco Conservatory Precollege division. He enjoys discovering rare classical works in his free time. Outside of music, he is a runner and cyclist.



Documentary
Website



Performances
Channel

