



With Freedom of Soul to Do and Be

**A Longitudinal Study of Young
Musicians in Carnegie Hall's NYO2
Orchestra**

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Executive Summary

The air is full of commitments to increasing diversity, inclusion, and belonging for young people. Yet in the contemporary U. S. many young adults seeking possibilities for thriving are undercut by the reality of explicit exclusion, rooted in privilege, the stubbornly uneven distribution of prior opportunity, and the implicit barriers of unspoken assumptions and daily practices that sideline newcomers. Nowhere is this proving harder to change than in highly competitive settings like selective colleges, universities, conservatories, internships, and training programs in highly competitive fields like neuroscience, engineering, and the arts where inherited habits, articulated tastes, and concentrations of power often repeat, rather than evolve. Changing those structures is urgent – for young people, for the relevance and vitality of institutions, and because we need the courage to interrogate the long-standing habits of selection, promotion, and recognition, replacing them with alternatives that amplify, rather than limit, opportunity.

Using research on the links between structural opportunities, a young person's sense of belonging, and their resulting commitment to and pursuit of goals, this paper shares findings from a mixed-methods, longitudinal study of Carnegie Hall's youth orchestra, NYO2, a group formed to make advanced musical training more inclusive by changing the micro- and macro-practices characteristic of youth orchestras.

This work is exploratory. But even when viewed cautiously, these findings are clear:

- **Substantial interest:** There are significant numbers of young players from groups historically underrepresented in the field who want to pursue Western classical musical training.¹ (Over 600 young people have applied to NYO2 annually since 2018, with a range of 22 to 34% of those individuals reporting that they come from historically underrepresented populations.)
- **Excellence and diversity:** There is no trade-off between selecting highly accomplished players and forming an ensemble that more nearly reflects the

¹ Throughout this report we have made several choices about language that require explanation. First, we use the term *historically underrepresented in the field* to refer to persons who identify as Black, Latino/Hispanic/Indigenous/and of mixed race, following the advice of a number of colleagues who think and write about issues of race, ethnicity, and equity. This allows us to acknowledge that patterns of exclusion vary by domain (orchestral music as compared to sports). At the same time, this language relies on current U. S. census categories which we acknowledge that those categories are blunt and essentializing, failing to recognize the heterogeneity of groups like Asian students, some of whom have had historic access to instrumental training (e.g., East Asians) and others (South Asians) who have not had those same opportunities.

population of the contemporary U. S. The overwhelming majority of NYO2 players come from the upper half of external reviewers' scores.

- **Building opportunity:** It is possible to identify and change many of the received habits of youth orchestra programs through the creation of deliberate opportunity structures, ranging from hiring faculty and conductors who reflect the identities of players to insisting that all students rotate through orchestral leadership positions, like first chair positions.
- **Persistence and Engagement:** Those opportunity structures can make a difference in who persists and engages actively in the classical music field. Significantly, these effects are especially marked for players from historically underrepresented groups who applied and enrolled in NYO2.
 - These applicants are more likely to persist past an initially unsuccessful application than other groups of applicants.
 - Compared to their peers who continue in the field, NYO2 historically underrepresented alumni report more hours a week in musical activity, reaching an average of nine hours more weekly, even as college students.
 - Six years past their initial enrollment in NYO2, historically underrepresented interviewees, compared to their White and Asian peers, report higher percentages of continuing to play their instruments, being enrolled in conservatories or as music majors, wanting a career in music, and taking part in more socially-engaged music-making.

A commitment to diversity, equity, inclusion, and belonging demands going beyond optics of who and whose work is featured on posters and in performance. Working in deeply equitable ways that create lasting opportunities requires intense focus on identifying and changing received, unexamined, and exclusionary practices. Where this happens, there are important consequences for how all young people see their lives as creators and contributors – and for the ways in which teachers, coaches, and organizations see their work. But the effects may be particularly strong among young people who have historically been marginalized. These changes, if pursued, could lead to a next generation of young players, conductors, composers, and audience members who enliven and sustain classical music in and beyond the concert hall.

Carnegie Hall has had the will and the resources to invest in this work at a national scale, but it is not alone. Other youth orchestras, pathway programs, and conservatories are doubling down on the work of diversifying the field of classical music. Beyond music there is an equally urgent conversation waiting to be held within fields like theater, ballet, and filmmaking, about who gains entrance, who thrives, and who persists. There is an equally important but uninitiated dialogue across highly competitive fields ranging from music to neuroscience and artificial intelligence. It is a conversation about what transforms the formal equities of recruitment and admissions to the substantive equity of equivalent

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opportunities to develop and persist. Building those opportunities is all the difference between being offered a place at the dinner table and having a fork, knife, and spoon to dig in and be nourished.



Introduction

A major challenge for contemporary cultural organizations is how to play a substantive role in addressing the structural inequalities that govern whose creative work is recognized, developed, shared, and celebrated.

I dream of a world of infinitive and valuable variety; not in the laws of gravity or atomic weights, but in human variety in height and weight, color and skin, hair and nose and lip. But more especially and far above and beyond this, is a realm of true freedom: in thought and dream, fantasy and imagination; in gift, aptitude, and genius—all possible manner of difference, topped with freedom of soul to do and be, and freedom of thought to give to a world and build into it, all wealth of inborn individuality. Each effort to stop this freedom of being is a blow at democracy—that real democracy which is reservoir and opportunity . . . There can be no perfect democracy curtailed by color, race, or poverty.²

- W. E. B. Du Bois

A major challenge for contemporary cultural organizations is whether they will play a substantive, or a largely performative, role in addressing the structural inequalities that govern whose creative work is recognized, developed, shared, and celebrated. Playing a substantive role certainly includes changing repertoire, creators and performers, and board membership, but it also includes reaching deep into the daily ways in which inequalities are built throughout the entire ecology: whose picture is on the poster, whose work is acknowledged in the program, whose name is above the line in the crawl at the end of a film, who casts the season, who writes the advertising copy, and who reviews which performances and where those appraisals appear.

But long before those organizational habits, there are fundamental questions about who has sustained access to arts education, how the pathways to special schools are constructed, who has the social capital to find teachers or research scholarships to summer programs. These are all bricks in the pathway to performing or creating (Ahmed, 2012; Gaztambide-Fernández & Parekh, 2017; Gaztambide-Fernández, Saifer, & Desai 2013).³

² Du Bois, W. E. B. (2007 (1947)). in *The World and Africa: An Inquiry into the Part Which Africa Has Played in World History*. (Oxford University Press, 165.)

³ Ahmed, S. (2012). *On Being Included*. Duke university Press; Gaztambide-Fernández, R., & Parekh, G. (2017). Market “choices” or structured pathways? How specialized arts education contributes to the

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And at the root are fundamental inequities in safety, security, civil rights, and justice which shape who has the energy and confidence to see themselves as developing, creating, and performing, not just surviving. But in the contemporary U. S., nearly 17% of children are poor enough that they could come to an early morning band rehearsal without breakfast.⁴

These are particularly acute questions in the world of orchestral music where the number of players from historically underrepresented groups in professional U. S. orchestras hovers around 4%⁵ with similar patterns characterizing who conducts, who solos, and whose work is performed in a population where approximately 25% of people identify as other than White.⁶ Sobering and stubborn as these numbers are, the challenge is larger than shifting the observable demographics of who is seated in an orchestra or the works listed in the program. There are two equally important projects: the first entails identifying and changing the thousands of off-stage, behind the scenes choices that currently foreclose on a pathway to making a musical contribution, and the second is the imperative to sustain young people who want to walk that path.

At this moment there is a broad effort to make a difference in who has access to musical pathways. This is evident in the growing number of El-Sistema inspired projects across the world (now well over one hundred in the US alone),⁷ in the ways in which traditional youth orchestras are diversifying the youth they serve,⁸ and in major national efforts to build pathways for young musicians of color [e.g., Sphinx, Youth Orchestra of Los Angeles, The New World Symphony Fellows, National Instrumentalist Mentoring and Advancement Network (NIMAN), and others]. It is in this context that the Weill Music Institute at Carnegie Hall founded and developed its youth orchestra programs. These include three free ensembles: the National Youth Orchestra of the United States of America (NYO-USA) for 17 – 19 year-olds, NYO2 for 14 – 17 year-olds, and NYO Jazz for 16 – 19 year-olds, each assembled through a national application process, followed by a multi-week training program, culminating in concerts at Carnegie Hall.

reproduction of inequality. Education. Policy Analysis Archives, 25(41).

<http://dx.doi.org/10.14507/epaa.25.2716>; Gaztambide-Fernández, R. A., Saifer, A., & Desai, C. (2013).

“Talent” and the misrecognition of social advantage in specialized arts education. *Roeper Review*, 35(2), 124-135.

⁴ <https://www.census.gov/library/stories/2022/10/poverty-rate-varies-by-age-groups.html>

⁵ Doesser, J. (2016). Racial/Ethnic and Gender Diversity in the Orchestra Field. *League of American Orchestras*

⁶ U. S. Census. Accessed at: <https://www.census.gov/data.html>, December 18, 2022.

⁷ <https://elsistemausa.org/wp-content/uploads/El-Sistema-USA-Member-Organizations-by-State.pdf>. Accessed December 11, 2022.

⁸ Equity, diversity, inclusion & belonging at CYSO, Accessed at <https://cyso.org/equity-diversity-and-inclusion-at-cyso/>, December 11, 2022.

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The following report focuses on NYO2, the ensemble serving the youngest musicians, drawing on longitudinal quantitative and qualitative data drawn from applications, annual surveys, observations, and interviews to explore the consequences of participation, with particular attention to the consequences for young players from historically underrepresented groups.



Deeper Recesses, Root Causes

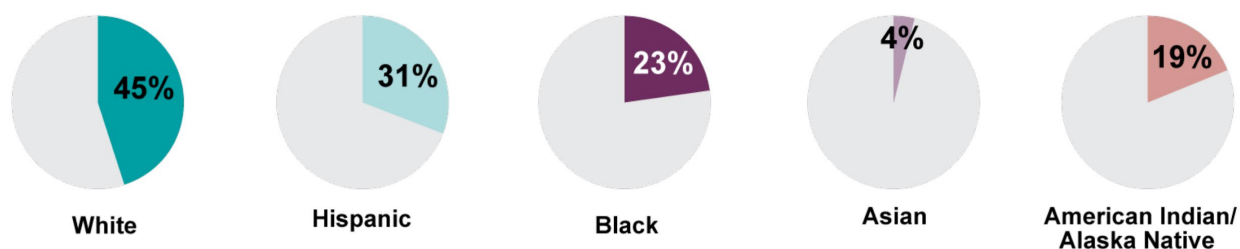
The structural inequalities in music education are fostered by two root causes: 1) an education system that distributes opportunities to learn and persist in ways highly correlated with wealth, demographics, and geography, and 2) an equally troubling and stubborn definition of talent as rare, fixed, individual, and independent of social advantage.

The lack of diversity in American orchestral music owes its stubborn persistence to a network of underlying conditions. Some of these conditions are reflective of the segregation and privatization of educational opportunities, including those to learn music, throughout U. S. communities. But these structural conditions are amplified and stabilized by broader conceptions of talent which are particularly deeply rooted in the field of Western classical music.

Structural Inequalities in Music Education

A recent Government Accountability Office study of segregation in U. S. schools reports that even as the K-12 public school student population grows significantly more diverse, schools throughout the country remain divided along racial, ethnic, and economic lines. These divisions span school types, regions, and community types (urban, suburban, and rural). More than a third of students (about 18.5 million) attend a predominantly same-race/ethnicity school—where 75 percent or more of the student population is of a single race/ethnicity—according to GAO's analysis of Department of Education data for school year 2020-21. GAO also found that 14 percent of students attended schools where 90 percent or more of the students were of a single race/ethnicity.

Figure 1: Percent of Public K-12 Students Attending School Where 75 Percent or More of the Students Are of Their Own Race/Ethnicity



Source: GAO analysis of the Department of Education's Common Core of Data for school year 2020-21. | GAO-22-104737

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School district boundaries contribute to continued divisions along racial/ethnic lines. A decade of GAO data shows that district secession—a process by which schools sever governance ties from an existing district to form a new district—generally resulted in shifts in racial/ethnic composition and wealth, creating adjacent districts that differ significantly in racial composition and wealth and creating the conditions for major disparities in educational opportunities.⁹

Reflecting and amplifying the stubborn segregation in schools is the unequal access to arts education for U. S. students. The [*National Arts Education Status Report Summary 2019*](#)¹⁰ determined that quality arts education programs continue to be limited or not available in many schools, despite arts education programs thriving in some communities. The report makes clear that over two million students do not have access to any arts education, and the lack of access is disproportionate for students in major urban or very rural areas. Lack of access to arts education also characterizes public schools with a student population that is majority Black, Hispanic, or Native American, as well as schools with the highest percentage of free or reduced-price meals. Similarly, a prospective longitudinal study of a diverse student population from pre-k through middle school found that Black students, males, students with disabilities, students previously retained, and those acquiring English had reduced odds of taking an arts class. Children with stronger school readiness skills at age 4 and stronger academics in 5th grade were more likely to enroll in arts-related courses (Winsler Garo, Alegado, Castro & Tavasoliel, 2020).¹¹

The findings for school music are quite similar. The availability of and access to school programs differs from community to community across the United States. Schools with larger concentrations of poverty are less likely to offer music instruction [81% in the lowest socioeconomic status (SES) vs. 96% in the highest SES schools], and these same schools offered fewer music courses than their higher SES counterparts (Parsad & Spiegelman, 2012).¹² In a national survey of school principals, Abril and Gault (2008) found that while the vast majority of secondary schools offered courses in music, low SES schools offered significantly fewer types of music courses than their high SES counterparts. A study of a large school district in Texas found that while music programs may be present in schools of different SES levels, their quality varied. Schools with a lower SES and higher minority

⁹ K-12 EDUCATION: Student Population Has Significantly Diversified, But Many Schools Remain Divided Along Racial, Ethnic, and Economic Lines. Accessed at https://artseddata.org/national_report_2019/ <https://www.gao.gov/products/gao-22-104737>. December 4, 2022.

¹⁰ National Arts Education Status Report 2019. Accessed at https://artseddata.org/national_report_2019/, December 4, 2022.

¹¹ Winsler, A., Gara, T. V., Alegado, A., Castro, S., & Tavassolie, T. (2020). Selection into, and academic benefits from, arts-related courses in middle school among low-income, ethnically diverse youth. *Psychology of Aesthetics, Creativity, and the Arts*, 14(4), 415.

¹² Parsad, B., & Spiegelman, M. (2011). A Snapshot of Arts Education in Public Elementary and Secondary Schools: 2009-10. First Look. NCES 2011-078. National Center for Education Statistics.

populations were found to have fewer resources allocated for music (Costa-Giomi & Chappell, 2007).¹³ Differences in the presence, prevalence, and funding of school music programs is also mediated by a school's status as public, private, or charter; the school community's average level of SES; and the demographics of the school's student body (Elpus, 2017; Elpus & Abril, 2019).¹⁴

A major result is that in many U. S. communities, continuous, high-quality music training beyond the entry level has, in effect, been privatized. Individual students, their families, and their communities have to take on the price of lessons, the cost of renting or purchasing and repairing an instrument, youth orchestra fees, as well as the opportunity costs of searching out programs, teachers, and transport. Not surprisingly the composition of youth orchestras, while changing, historically has not represented the diversity of American youth (League of American Orchestras, 2014).¹⁵ Similarly, Black and Latinx musicians are often missing from teaching and conducting staff (DeLorenzo, 2012).¹⁶ Frequently the repertoire of those same orchestras remains focused on male composers who wrote in the period of 1850 to the early twentieth century (Pope, 2017).¹⁷

Problematic Conceptions of Talent

In addition to these structural inequalities, the Western classical music field has inherited a problematic conception of talent as rare, independent of circumstance and individual (Kingsbury, 1988).¹⁸ While there is no question that there are distinctively gifted musicians, each of these tenets, particularly as translated into practice, deserves interrogation. With respect to rarity, many humans have the capacity to acquire skills at extraordinary levels of proficiency, given the expectation, community, and opportunity. Consider the more inclusive conceptualizations of who has the “chops” to perform that exist among jazz players, community choral singers, spoken word artistry of rappers, or traditions like tabla playing.¹⁹ Similarly, the belief that talent is an inborn trait of the individual, independent of context, is questionable. Competing frameworks for explaining

¹³ Costa-Giomi, E., & Chappell, E. (2007). Characteristics of band programs in a large urban school district: Diversity or inequality? *Journal of Band Research*, 42(2), 1.

¹⁴ Elpus, K. (2017). Understanding the availability of arts education in US high schools. Retrieved June, 17, 2020.; Elpus, K., & Abril, C. R. (2019). Who enrolls in high school music? A national profile of US students, 2009–2013. *Journal of Research in Music Education*, 67(3), 323–338.

¹⁵ Doesser, J. (2016). Racial/Ethnic and Gender Diversity in the Orchestra Field. League of American Orchestras.

¹⁶ DeLorenzo, L. C. (2012). Missing Faces from the Orchestra: An Issue of Social Justice? *Music Educators Journal*, 98(4), 39–46. <https://doi.org/10.1177/0027432112443263>

¹⁷ Pope, D. A. (2019). An Analysis of the Repertoire Performed by Youth Orchestras in the United States. *String Research Journal*, 9(1), 35–49. <https://doi.org/10.1177/1948499219851378>

¹⁸ Kingsbury, H. (1988). *Music, talent, and performance*. Temple University Press.

¹⁹ Beghetto, R. A., & Zhao, Y. (2022). Democratizing Creative Educational Experiences. *Review of Research in Education*, 46(1), vii–xv.

talent and recognition stress how important social capital and being embedded in the right networks can be to being seen as gifted or at promise (e.g., having a recognized teacher, or a sound like one of the great players of your instrument).²⁰ Finally, the view of talent in contemporary Western settings is highly individualized. The narrative is of the gifted child, as compared to the gift-supporting setting (e.g., family, community, or culture in which that child is being nurtured). Standing in contrast to this are collectivist or communitarian views of creative activity, informed by indigenous and Black creative practices where “we” rather than “I” is the acknowledged source, author, or maker.²¹ Taken together, these beliefs about talent can make it difficult to distinguish between privilege, access, and enculturation on the one hand and commitment and musicality on the other.

This rare, individual, and context-independent conception of talent has far-reaching consequences. It shapes where and how programs search for students (e.g., more often in schools than congregations). It affects the events through which talent is identified (i.e., the concerto competition model that zeroes in on the highest scorers in a singular event, followed by little to no feedback to “losers” about how they might improve). It favors pedagogies that burnish accomplished candidates, rather than those that identify, diagnose and teach young people who are at promise. In this way the tastes and expectations of those already within an artistic field reproduce themselves in a next generation of players.²² Finally, and problematically, this conception of talent is often mobilized in defense of these very practices as equitable. The argument is that everyone with enough talent is welcome – a premise that sidesteps the considerable overlap between talent and social advantage (Gaztambide-Fernández & Parekh, 2017; Gaztambide-Fernández, Saifer, & Desai 2013).²³

²⁰ Frenette, A., & Dowd, T. J. (2020). Careers in the Arts: Who Stays and Who Leaves? SNAAP Special Report. Spring 2020. *Strategic National Arts Alumni Project*, Scripp, L., Ulibarri, D., & Flax, R. (2013). Thinking beyond the myths and misconceptions of talent: Creating music education policy that advances music's essential contribution to twenty-first-century teaching and learning. *Arts Education Policy Review*, 114(2), 54-102; Subotnik, R. F., Olszewski-Kubilius, P., & Arnold, K. D. (2003). Beyond Bloom: Revisiting environmental factors that enhance or impede talent development. *Rethinking gifted education*, 227-238; Whitaker, A., & Wolniak, G. C. (2022). Social Exclusion in the Arts: The Dynamics of Social and Economic Mobility Across Three Decades of Undergraduate Arts Alumni in the United States. *Review of Research in Education*, 46(1), 198-228.

²¹ Patton, L. D., Jenkins, T. S., Howell, G. L., & Keith Jr, A. R. (2022). Unapologetically Black creative educational experiences in higher education: A critical review. *Review of Research in Education*, 46(1), 64-104.ist

²² Hrabowsky, F., Henderson, P. & Tracy, K. (2022) The Specific Demands of Navigating/Belonging in Elite Institutions Accessed at: <https://www.theatlantic.com/ideas/archive/2020/10/higher-education-structural-racism/616754/> December 17, 2022; Treisman, U. (2008). Emerging scholars program. *Making the connection: Research and teaching in undergraduate mathematics education*, 18(73), 205.

²³ Gaztambide-Fernández, R., & Parekh, G. (2017). Market “choices” or structured pathways? How specialized arts education contributes to the reproduction of inequality. Education. Policy Analysis Archives, 25(41). <http://dx.doi.org/10.14507/epaa.25.2716>; Gaztambide-Fernández, R. A., Saifer, A., & Desai, C. (2013). “Talent” and the misrecognition of social advantage in specialized arts education. *Roeper Review*, 35(2), 124-135.

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Making changes in these beliefs requires work on many fronts: equity in public arts education that shares not only access, but quality and depth; as well as commitment from specialized arts schools and conservatories to creating affordable and sustained pathways. In addition, it demands confronting deeply embedded ways of thinking about core notions like gift and talent that inform and organize every practice that young musicians encounter.



The Origin, Goals, and Design of NYO2

NYO2 was founded in 2016 with a triple mission: 1) to form and support a youth orchestra comprised of players that represent the diverse population of the contemporary U. S., coming from a wide range of musical backgrounds (e. g., youth orchestra, band, self-taught); 2) to demonstrate how this can be done in a way that proves there is no conflict between the equity and excellence; and 3) to understand the choices and the design features that achieving these goals requires. In the words of W. E. B. Du Bois this means “lifting the veil” to look into what he calls the “deeper recesses” of what drives inequality and exclusion from opportunity – and then moving to invent what could reverse that exclusion.

Historically, youth orchestras have reflected the structures and habits of larger professional orchestras. For instance, the most recent national study of their demographic composition indicated that their demographic composition reflected that of those larger orchestras.²⁴ In recent years, many youth orchestras have challenged themselves to change, enrolling and retaining much more diverse communities of young people.²⁵ But, as many young musicians attest, enrollment and retention are just the beginning; building a long-term sense of belonging, agency, progress, and worth is a different, harder, and necessary kind of work.


In 2012, Carnegie Hall established its National Youth Orchestra of the United States of America (NYO-USA). The orchestra was created by Weill Music Institute, the Hall's music education and social impact programs wing, and modeled along broadly similar lines to the National Youth Orchestra of Great Britain. The program is focused on an intensive summer program, followed by a multi-city tour. Supported by a faculty of principal players from professional American orchestras, the musicians' preparation is overseen first by a rotating orchestra director and then a different major conductor each year. NYO-USA is a

²⁴ Doesser, J. (2016). Racial/Ethnic and Gender Diversity in the Orchestra Field. League of American Orchestras; DeLorenzo, L. C. (2012); Missing Faces from the Orchestra: An Issue of Social Justice? Music Educators Journal, 98(4), 39–46. <https://doi.org/10.1177/0027432112443263>

²⁵ For example, collaborative networks in several major U. S. cities, with support from the Mellon Foundation, have formed to address the historical exclusivity of youth orchestras. Accessed at: <https://philanthropynewsdigest.org/news/mellon-awards-2.5-million-for-boston-classical-music-youth-program>. December 14, 2022.

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full symphony orchestra consisting of around 120 young musicians. Membership in the orchestra changes each year with an annual application and audition process. The process of building NYO-USA was challenging and revealing.



When we launched NYO-USA, we wanted it to be a national youth orchestra in the broadest sense of that terms, meaning representative of the nation, in every sense of the term. We wanted to see every state, rural community, and big cities, kids coming from different economic backgrounds. All of those things were a priority. We knew it would be hard, so we worked towards that from the beginning. For example, once we had a finalist pool, we said, “Let’s look at the whole next twenty percent of applicants, did we leave out people who ought to be here because they are the only person from their state, because they tell an important story about daring to teach yourself to play, about the role of music in their life? It is also why we insisted that we write written feedback to every applicant, we wanted even the act of applying to be beneficial, to keep a young person going, because we knew how many we would be rejecting.

Then we launched NYO-USA and it was more successful than we had reason to expect. It wasn’t fully diverse as we hoped. But when we were able to bring in kids who didn’t have access to private teachers, or to peers who also played orchestral music, or to summer music festivals. And especially for those kids who had little access, we saw disproportionate effects. From family or from teachers we heard, “He came home a different person.” Or “We knew it would be great for her musically, but we didn’t expect all those other changes.”

At the same time, we also saw how skewed the application pool was towards kids with multiple musical advantages. And we also saw that there were committed kids reapplying but making very little progress. We found ourselves saying, “If only we could have invited them to join years earlier.” So NYO2 was born.

- Sarah Johnson, Chief Education Officer, Director, Weill Music Institute

Thus, in 2016, Carnegie Hall established the National Youth Orchestra 2 (NYO2) with a particular focus on recruiting diverse younger musicians (ages 14 – 17) and providing early opportunities to work closely with top orchestral players and conductors, as well as other similarly committed peers from across the U. S. The result was a multi-week summer program at Purchase College, State University of New York, alongside NYO-USA (and more recently NYO Jazz) followed by a residency with a major orchestra (e.g.,

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Philadelphia, New World Symphony) with opportunities for side-by-side performances and an opportunity to rehearse and perform at Carnegie Hall with a major conductor.

NYO2 has a triple mission: 1) to form and support a youth orchestra comprised of players that represent the diverse population of the contemporary U. S., coming from a wide range of musical backgrounds (e.g., youth orchestra, band, self-taught); 2) to demonstrate how this can be done in a way that proves there is no conflict between equity and excellence; and 3) to understand the choices and the design features that achieving these goals requires. In the words of W. E. B. Du Bois this means “lifting the veil” to look into what he calls the “deeper recesses” of what drives inequality and exclusion from opportunity – inventing what could reverse that exclusion.²⁶

²⁶ Du Bois, W. E. B. (1903/2007). *The Souls of Black Folks: Essays and Sketches*. Oxford University Press.



Self, Belonging, and Achievement: An Opportunity Structures Framework for Thinking about the Impact of NYO2 Participation

New thinking about what allows young people to achieve in and out of school stresses the powerful role that a sense of belonging and the deliberate design of opportunity structures (factors that empower or limit actors) play in fueling motivation, persistence, and the determination to grow and change.

A critical period in the evolution of identity is adolescence when individuals increasingly navigate new, and often selective, situations on their own: middle and high school classrooms each with a different teacher, competitive sports teams, electives, clubs, and out-of-school activities like youth orchestras and bands.²⁷ Among the most powerful forces shaping adolescents' identities is the experience of belonging, an individual's sense of being accepted, valued, included, and encouraged by others. It is the sense of being able to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships.²⁸ More than a self-reported state, a person's sense of belonging creates the psychological setting in which engagement and effort make sense, and in which acknowledging needs or seeking help are strengths, rather than vulnerabilities. Thus, a young person's sense of belonging in school has been found to predict higher levels of engagement, learner habits, and academic achievement and lower levels of chronic absenteeism and dropping out.²⁹ Recent studies of belonging among young people who are often marginalized in schools (i.e., historical minorities, low-

²⁷ Neblett Jr, E. W., Rivas-Drake, D., & Umaña-Taylor, A. J. (2012). The promise of racial and ethnic protective factors in promoting ethnic minority youth development. *Child development perspectives*, 6(3), 295-303; Santos, C. E., & Umaña-Taylor, A. J. (2015). *Studying ethnic identity: Methodological and conceptual approaches across disciplines*. American Psychological Association; Umaña-Taylor, A. J. (2011). Ethnic identity. *Handbook of identity theory and research*, 791-809.

²⁸ Baumeister, R. F., and M. R. Leary. 1995. "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation." *Psychological Bulletin* 117: 497-529. doi:10.1037//0033-2909.117.3. 497.

²⁹ Korpershoek, E. T. Canrinus, M. Fokkens-Bruinsma & H. de Boer (2020) The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: a meta-analytic review, *Research Papers in Education*, 35:6, 641-680, DOI: 10.1080/02671522.2019.1615116

income, new speakers of English, and others) have underscored the role that opportunity structures can play in creating this vital sense of being a visible and valued participant in a given setting, such as high school.³⁰

Opportunity structures refer to factors that empower or limit people's achievement of outcomes they value, like belonging. These structures range from such apparently incidental, daily occurrences as being known by name or called on in class to rarer, more explicit experiences such as being admitted to courses, clubs, or teams or being awarded honors. They also include the hidden knowledge about how to unlock the privileges of a given institution (e.g., how to get an appointment with a teacher or counselor, get into electives, or approach a coach). This research illuminates the network of implicit and explicit rules that govern the distribution of access and recognition, the know-how it takes to navigate those structures, and the ways in which that know-how is correlated with past experiences of privilege and power at least as much as performance or hard work.³¹ While much of this research has been conducted in high schools and colleges, there are similar patterns in other competitive settings where sought-after skills and privilege are distributed, from science laboratories to orchestra fellowships.³² These patterns are sometimes blatant, but often subtle and deeply-rooted.

³⁰ Gray, D. L., Hope, E. C., & Matthews, J. S. (2018). Black and belonging at school: A case for interpersonal, instructional, and institutional opportunity structures. *Educational Psychologist*, 53(2), 97-113; H.

³¹ Jack, A. A. (2019). *The privileged poor: How elite colleges are failing disadvantaged students*. Harvard University Press.

³² Kendall, P. (2018). Should we steer clear of the winner-take-all approach? Accessed at <https://www.nature.com/articles/d41586-018-00482-y>, December 13, 2022.

Feder, S., & McGill, A. (2021). 10. Diversity, Equity, Inclusion, and Racial Injustice in the Classical Music Professions: A Call to Action. *Classical Music*, 87; Flagg, A. (2020). Anti-Black Discrimination in American Orchestras. *League of American Orchestras Symphony Magazine*, 30-37; Rabkin, N. & Hairston-O'Donnell, R. (2016). Forty Years of Fellowships. Accessed at <https://americanorchestras.org/forty-years-of-fellowships-a-study-of-orchestras-efforts-to-include-african-american-and-latino-musicians/>, December 13, 2022.



Opportunity Structures at NYO2

Changing opportunity structures at NYO2 focused attention on both the macro- and the micro-practices that communicate who is welcome, how to gain entry, how to take advantage of what is on offer, how to step up to the plate, and how to turn failure into the next possibility.

Given the complex mission of NYO2, it was vital to design the program with attention to: 1) identifying and interrupting the details that make for marginalization and exclusion and 2) ensuring the practices that make for experiences of inclusion and value. This was particularly urgent in a youth orchestra where a self-taught violist would be playing side-by-side with a violist with years of private lessons, pre-conservatory training, and a fine instrument. A number of the key design decisions are summarized in Table 1 below. Throughout these decisions, there was an effort to surface and address the often-hidden rules of the road. For instance, the application materials contain explicit advice for players to: use the long preparation time to rehearse and record their application videos until “they represent your playing well;” to turn to “everyone who can advise you” for musical support; to be assured that “consumer-level recording equipment is fine.” At the outset, and continuing over time, the intention was to create as few barriers and as many positive opportunity structures – large and small – as possible.

Table 1: Opportunity Structures at NYO2 (as of Summer 2022)	
Application and Section Processes	
Recruitment and nomination strategy	Wide distribution to different kinds of individuals who may know the individual as a musician. Requires a formal nomination from a teacher, ensemble director, school/band/orchestra administrator, or community leader who knows the student. “NYO2 welcomes the nomination of musicians who have not had access to highly selective ensemble training opportunities through youth orchestra programs, summer festivals, camps, or similar experiences outside of their own communities.”
Application process	A long timeline with encouragement to rehearse and remake recordings to “select the best of several takes.” Early June: Excerpts announced, nominations open; early September: Application officially opens; end of November: Deadline for nominations to be received; mid-December:

	<p>Application deadline; early January: Recommendation deadline; Mid-February: applicants notified of status via email; audition feedback provided shortly thereafter.</p> <p>A clear statement that expectations are set for what “consumer electronics” can provide (as compared to professional recording).</p> <p>Alumni of the orchestras have produced an archive of on-line videos, NYO-U, that provide helpful tips for auditioning (i.e., preparing excerpts, how to play fast passages, dealing with performance anxiety).</p>
Repertoire for application	<p>When possible, performance excerpts are drawn from the repertoire to be played during the summer session. Electronic copies of the sheet music are available for free. There is clear advice to make maximum use of an applicant’s musical network as well as the wider range of performances available digitally. “If you are unfamiliar with these excerpts, or with performing excerpts in general, we encourage you to listen to recordings of the pieces and bring the excerpts to your private instructors or ensemble leaders for their input.”</p> <p>In addition to specified excerpts from the concert repertoire, applicants submit a solo piece of own choosing: “...a 2– 3-minute solo piece or a movement/section of a longer work that best represents your musicianship. This can be any music of your choosing, with or without accompaniment. If the piece is longer than three minutes, you may record one or more sections totaling 2–3 minutes...”</p> <p>Video essay: “This is an opportunity for you to share more of your personality and interests, or a side of yourself that may not be evident from other elements of the application. There is no right or wrong answer to any of the prompts.”</p>
Judging and Feedback	<p>Two judges, using common criteria, review the excerpts and provide written feedback to all applicants, including specific feedback on improvement for those who are and aren’t recommended for acceptance. (See below for a sample.)</p>
Selection Process	<p>A Carnegie team (conductors and staff) uses the reviews by judges to compose each section of the orchestra, considering musical performance as well as which players might benefit from having the opportunity. As they build the ensemble, they may double back, thinking about the overall composition of a section or the orchestra as a whole and asking for decisions to</p>

	be revisited (e.g., “I am concerned we are not listening to girls in the same way,” “I want to go back and listen to the maybe’s, I think we may be missing some promising kids.”)
Diversity and Inclusion Practices	
Role models in NYO2 coming from historically underrepresented groups	<ul style="list-style-type: none"> • Coaches: 15% Asian, 17.5% Hispanic/Latinx, 17.5% Black, 40% Female • Conductors: 60% from historically underrepresented groups, 50% Female • Additionally: Diversity among guest speakers and professional soloists
Older peers at SUNY Purchase residency from historically underrepresented groups	<ul style="list-style-type: none"> • 24% of NYO-USA musicians • 38% of NYO Jazz musicians • 56% of residence hall mentors
Music rehearsed and performed by NYO2	<ul style="list-style-type: none"> • 37% by living composers • 37 % by female composers • 37% by composers from historically underrepresented groups
Access and Equity	
Sectional Seating	Playing the first chair part rotates across all the players in the woodwind and brass sections. String section seating also rotates so that players seated in or near the front exchange places for half the program.
Private Lessons	Every student receives at least one per session. For many students, this is their first private lesson ever.
Access to coaches	Coaches often sit in rehearsals, taking notes that they bring to sectionals, often joining players on stage to demonstrate a technique, urge musical choices, etc. Coaches are informally available at mealtimes and at breaks.
Climate of acknowledgement	Collaborative music making in residence halls among friends is encouraged, where musical knowledge and experience is transferred between musicians with different past levels of musical access.

	Frequent stomping, clapping, and slapping for solos or sections well executed in rehearsals, master classes, and evening performances.
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Sample Feedback to a Tuba Applicant:

Great work on the Gregson; there was a nice energy and flow to the music. Very nice lyrical moments at the top of the second page. This is a tough piece with some really tricky licks and it takes a great deal of hard work to get things where they need to be. Good work in preparing the excerpts, they are taking shape nicely with generally correct notes and rhythms. Rhythmically you are doing well to keep a steady pulse with only a few exceptions. You are sounding great when you sing through your phrases as in the Gregson.

Sound is the main holdup here and something to focus on. Be sure you are working to develop and expand your sound, preferably with the guidance of a teacher. What we need is resonance and fullness in the sound. Right now what is coming across is a bit of a tighter sound concept which has a bit of squeeze at the beginning of each note making it difficult to start your phrases. Experiment by using a larger air stream by slowing the air down. If you take your mouthpiece out and blow through it without buzzing you can feel a large stream of air coming out the back (feel it with the palm or back of your hand). Try buzzing some music and emulate that quantity of air, without speeding up. You may find that as soon as you go to buzz the air will completely disappear when you try to measure it with your hand. Go for a nice full buzz on the mouthpiece that also yields a nice healthy flow of air. This may take some experimentation but try lots of different songs and don't worry about making anything sound too perfect. Once you can do this on the mouthpiece take it back over to the tuba and see if there is any change in the sound. If things are a bit fuller, rounder, or just easier go with that new direction and see where it takes you!

- Jury Reviewer

These decisions can be thought about in the light of the distinction between formal versus substantive equality. Formal equality of opportunity is the view that no rules or conditions should exclude individuals from achieving certain goals by making reference to personal characteristics, by applying the same rules/criteria to all, and by guaranteeing equivalent

opportunities to demonstrate readiness or skill. It is neutral with respect to outcomes, relying instead on what de Tocqueville calls “the charm of anticipated success.”³³ By contrast, substantive equality of opportunity (i.e., equity) *adds* a further condition that positions are not only open in a formal sense, but also that everyone should have a fair chance to attain them. This goes beyond forbidding discrimination or using universal criteria; it calls for institutional supports that put outcomes within the reach of anyone who wants to work to attain them. It is not neutral with respect to outcomes. Outcomes are what tell us whether the supports are adequate.³⁴ In NYO2, across these several areas of practice, the effort was -- and remains -- to build substantive opportunity for all students, those coming from rural band backgrounds who are new to world of classical music just as much as those who attend pre-conservatory training programs.

³³ De Tocqueville, A. (1859/2015). *Democracy in America-Vol. I. and II.* Read Books Ltd.

³⁴ Sen, A. [Equality of What?](#) In: McMurrin S Tanner Lectures on Human Values, Volume 1. Cambridge: Cambridge University Press; 1980.



The Study Design

Carnegie Hall collaborated with researchers at WolfBrown to design and conduct a multi-method, longitudinal study to examine:

- *Who applies, who is selected, and who persists as a part of the NYO system?*
- *Are there consequences of persisting in the NYO system, as compared to other musical pathways?*
- *Are there longer-term consequences for NYO2 participants? For participants from historically underrepresented groups in particular?*

As part of its work on NYO2, Carnegie Hall collaborated with researchers at WolfBrown to design and conduct a longitudinal study to examine the consequences of these design decisions for participants in NYO2 as they apply, during the program, and as they progress through their high school and college years. At the core of the inquiry was an investigation of whether the NYO2 design, with attention to opportunity structures such as those outlined above, would make a difference for students, particularly individuals coming from historically underserved populations and communities. Consequently, our research questions included:

- Who applies, who is selected, and who persists as a part of NYO2 and the larger NYO system?
- What are the consequences of persisting in the NYO system, as compared to other musical pathways?
- What are some possible longer-term consequences that may be attributable to NYO2 participation?
- Do those longer-term consequences vary for different groups of participants, for instance, low-income players or those coming from historically underrepresented groups?

To address these questions, we employed a mixed set of methods: descriptive analyses of readily quantifiable data from program applications and annual musical activity surveys, a series of multivariate regression models using these same data that allowed us to draw conclusions about the characteristics of students who are selected to NYO2 as well as the longer-term consequences of participation, and a combination of observations and

interviews to understand the consequences of NYO2 participation in deeper, more personal terms.

The Participants

Participants in the applications portion of this study included all applicants to Carnegie Hall’s NYO2 program across the 2017-2022 program years. This includes data from 3,596 applications provided by 2,700 unique individuals over this six-year period. (The difference reflects multiple re-applications by the same individual for successive years.) Our original design called for following this total population to track who “survived” through high school and into college as an active classical music player. With the first alumni survey, we learned that only young musicians who were continuing to play responded. For that reason, participants in the longitudinal study included 595 young people who elected to participate in the annual surveys of musical activity. 194 of those were young people who participated in NYO2 (NYO2 participants); 401 were students who continued in music in other programs (NYO2 applicants).

Figure 2: Gender Demographics of Survey Respondents

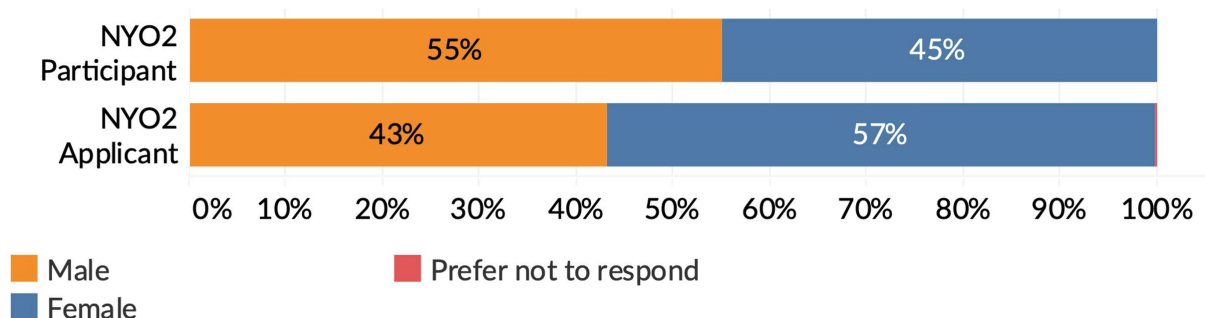
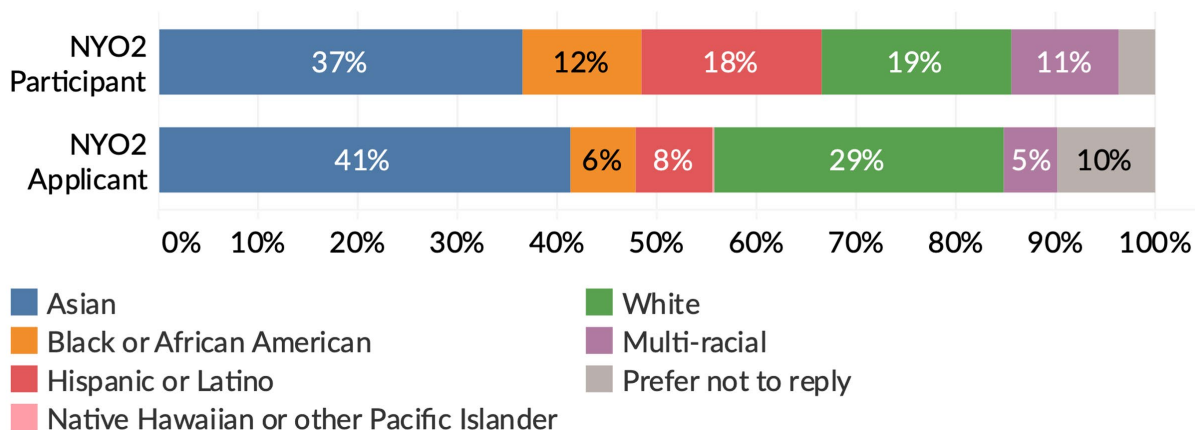


Figure 3: Race and Ethnicity of Survey Respondents



Participants in the retrospective interview study were 45 of the 78 members of the first (2016) cohort of NYO2 who responded to the invitation to participate, and represented the following race/ethnicity groups: Black – 33%, Asian – 28%, Hispanic/Latino – 18%, White – 18%, American Indian – 2%, Other – 4%.

Data Collection

The study was designed as a multiple method, longitudinal inquiry into the effects of NYO2 participation on young musicians. All applicants to NYO2 beginning in 2017 were invited to participate by sharing their application data and taking part in a multi-point survey about continuing musical activity: at 1.5 and at 3.5 years post their initial application (e.g., near the close of their high school years and their college years). The study combined multiple methods of inquiry, drawing on multiple data sources:

- **Application data:** The original Carnegie Hall application collected information on students' demographic and musical background. Beginning in 2018 WolfBrown added questions about students' "musical capital" designed to measure a student's access to the experiences and opportunities that could enable them to develop high-level musical skills (e.g., having a private teacher, playing in selective ensembles, having access to a professional quality instrument, and attending an arts magnet school), along with the age of onset for these experiences.
- **Auditions data:** As part of the admissions process for NYO2, recordings of each applicant playing solo repertoire and selected orchestral excerpts are graded by two outside judges. Judges grade four different musical skills, and give each applicant an overall score between 70 and 100. While these scores are not the sole determinant of admission, they are used in these analyses as a measure of musical achievement at the time of audition. These scores were used in the analysis of orchestra selection.
- **Annual survey data:** All applicants to NYO2 were invited to join the longitudinal research study. This yielded two groups of respondents: 1) NYO2 participants and 2) participants who took another path. Both groups filled out a brief survey about their musical activities once a year following their initial application to NYO2. The survey asked if they were still playing their instrument, and if so, for how many hours a week. It also asked about different supports and challenges to their ongoing playing.
- **Site observations and interviews:** Researchers from WolfBrown interviewed NYO2 staff about the program design and also attended the NYO2 program each summer during the ensemble's residency at Purchase College. Researchers observed the many different types of sessions that make up this portion of the program to understand the opportunities and instruction made available to NYO2 participants. Researchers also interviewed a structured sample (by gender, ethnicity, year in the

program) of between 15 to 20 students and 4 to 6 faculty members during each of these visits. In each session there were typically 4 interviewers: 2 white and 2 from historically underrepresented groups.

- **Retrospective Interviews:** As a final component, the first cohort of NYO2 who enrolled in 2016 were invited to participate in a one-on-one interview that focused on their current musical activities and the ways in which NYO2 may have contributed to their current musical life. Interviews were conducted by former members of Carnegie’s national youth orchestras to maximize the interviewers’ familiarity with the program and their ability to ask informed follow-up questions. One interviewer was Latinx, another was Asian-American.

The data collected are shown in Table 2 below.

Table 2: Data Collection Summary	
Quantitative Data	
Source	Notes
Application data	Including demographics, musical history, musical capital, excerpt ratings, selection decisions. (Musical capital refers to a young person’s access to: age to start private lessons, professional quality instrument, ensembles enrolled in, access to live performances, etc.)
Persistence data	If not initially selected
Continuance data	For subsequent years of NYO2, and for NYO-USA or NYO Jazz
Application to NYO-USA	As above
Annual musical activity survey	Continued playing, numbers of hours a week playing, types of musical activities, supports and challenges in sustaining musical activities, etc.
Survey of 2016 participants	1-on-1 interviews of 45 volunteers from the 78 initial NYO2 players. Items included retrospective questions about their experiences in NYO2, as well as the extent and range of their current musical activities.

Qualitative Data	
Program observations	Running records to capture the opportunity structures present and needed in the program.
Student interviews	Clinically standardized interviews of volunteer participants from across the orchestra members at Purchase, designed to learn more about the range of student backgrounds, how they, their families, and teachers built continuous pathways in classical music.
Faculty and conductor interviews	Clinically standardized interviews of volunteer faculty from across the orchestra, designed to learn more about what drew them to the program, the ways they sought to “level the playing field” by creating opportunity structures.
NYO2 2016 interviews	Open-ended questions about inclusion and belonging in NYO2, their current and future musical activities.

There is a technical appendix attached to this report that details the specifics of the analyses applied to these data.



Study Findings

In the following sections we explore the short and longer-term consequences of the opportunity structures built into NYO2. We examine findings from multiple domains including: application and selection data, persistence and promotion data, along with the comparative findings from an annual survey of young musicians who pursued playing in NYO2 or elsewhere. Finally, we look at the findings of retrospective interviews with the inaugural cohort of NYO2 players to ask who they have become as musicians. Throughout this discussion, we pay particular attention to the young musicians who identify as coming from historically underrepresented groups.

Application and Selection Findings: Who Seeks to Join and Is Chosen?

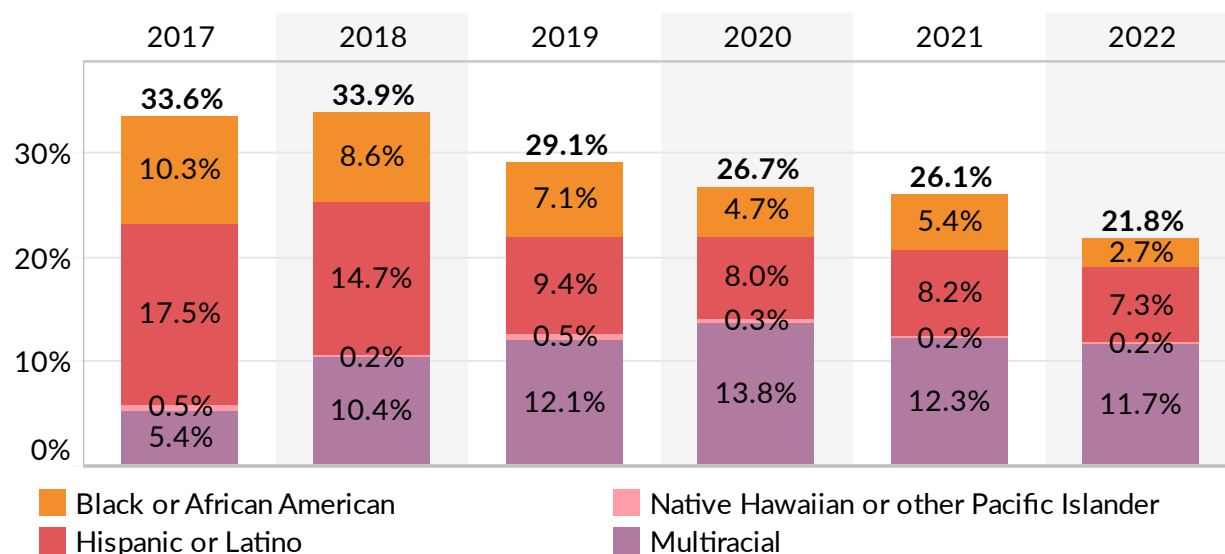
The application and selection findings demonstrate:

- *There is strong interest in NYO2 across demographics.*
- *It is possible to form an orchestra of accomplished players that more nearly reflects the demographics of a multi-racial nation.*
- *There is no trade-off between diversity and excellence.*

The applications for NYO2 from 2017 – 2022 show that there is strong interest in the program from young musicians, with the number of applicants ranging between 429 and 666 annually. Between 22 % and 34% of those applications come from Hispanic/Latinx, Black, American Indian, and multi-racial candidates.

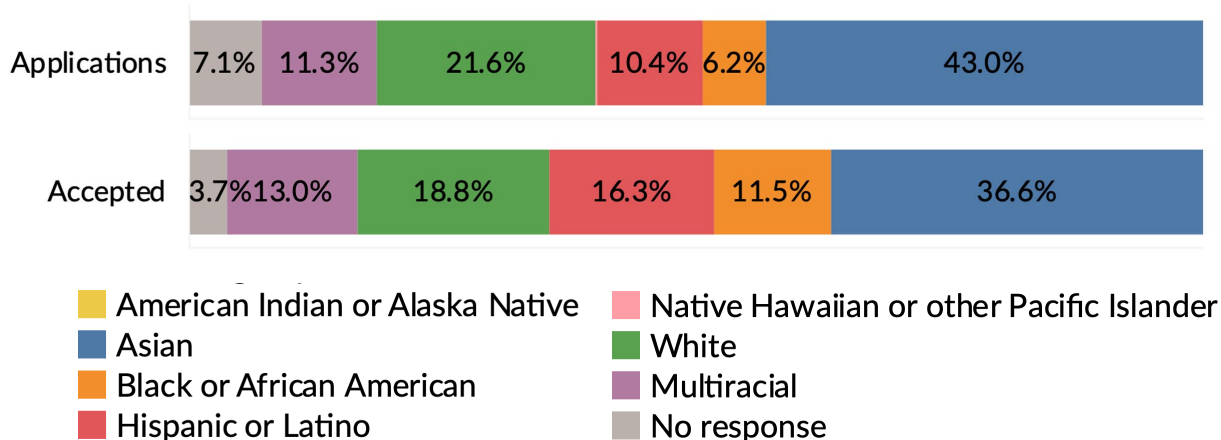
Figure 4 on the following page portrays the application data for historically underrepresented groups for NYO2 from 2017 – 2022. The range for all applicants identifying as coming from historically underrepresented communities ranges from 22-34% across years. As the figure indicates, it was highest in the first two years and has been declining, possibly due to COVID, possibly due to a growing number of such opportunities for young people.

Figure 4: Percentage of Applicants from Underrepresented Groups by Program Year



The data shown in Figure 5 below shows that that, over time, the orchestra has attracted – and accepted – a population of applicants more reflective of the diversity of the contemporary U. S. than has historically been the case for youth orchestras.³⁵ The data also show that the adjudication and final selection processes result in orchestras that increase the proportion of young people from historically underrepresented populations. For instance, 10.4 % of the applicants are Hispanic or Latino, whereas 16.3% of the accepted students are Hispanic or Latino; 6.2% of the applicants are Black, whereas 11.5% of accepted students are Black.

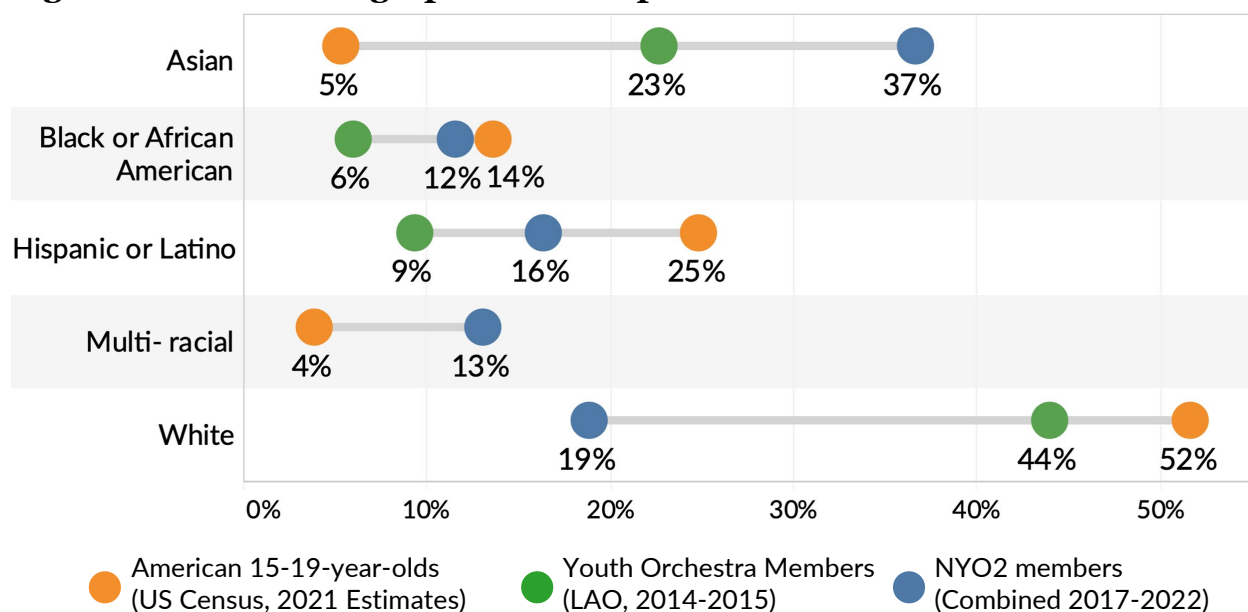
Figure 5: Diversity of Applicant and Accepted Musicians



³⁵ Doesser, J. (2016). Racial/Ethnic and Gender Diversity in the Orchestra Field. League of American Orchestras.

Figure 6 portrays the aggregated NYO2 demographics in comparison to the current population of 15 – 19-year-olds in the U. S. and the most recent aggregated youth orchestra data.³⁶ The data make the progress for Black, Latino, and multi-racial players clear. The data also make the issues with current race/ethnicity data clear. The blanket category Asian masks an underlying heterogeneity and fails to capture the differences between sub-populations who have had differential access to the musical opportunities.

Figure 6: NYO2 Demographics in Comparison



A complementary analysis, shown in Figure 7, examined the relation between these demographics and the adjudicated scores for accepted applicants. These results illustrate that the increased diversity of the NYO2 orchestra has little effect on the quality of the ensemble. Aggregated across years, 68.8% of NYO2 players come from the top quartile and 23.1% from the second quartile, meaning that over 90% of orchestra members come from the top half of the scoring range – a percentage quite similar to that in NYO-USA, Carnegie Hall’s original, and senior, ensemble.

³⁶ Doesser, J. (2016). Racial/Ethnic and Gender Diversity in the Orchestra Field. League of American Orchestras.

Figure 7: Percentage of Accepted Applicants by Quartile of Pre-Screening Score

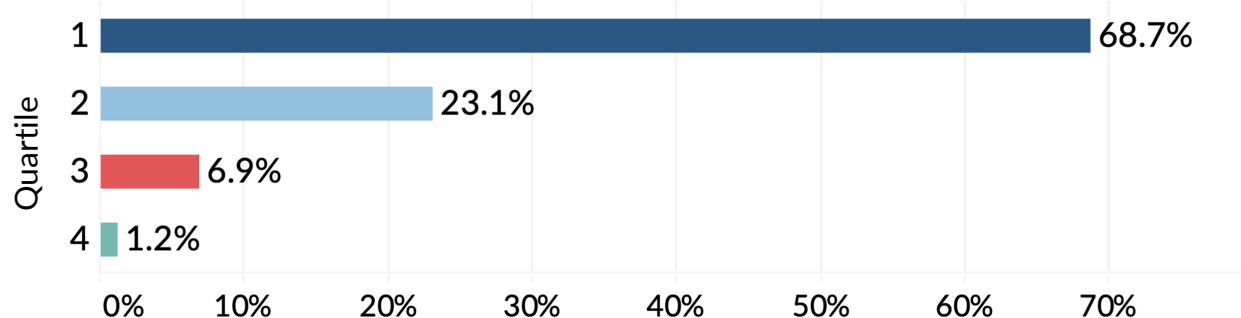


Figure 8 shows that across the years, between 85.4% and 96.6% of the accepted applicants come from the top half of the range of pre-screening scores.

Figure 8: Percentage of Accepted Applicants by Program Year

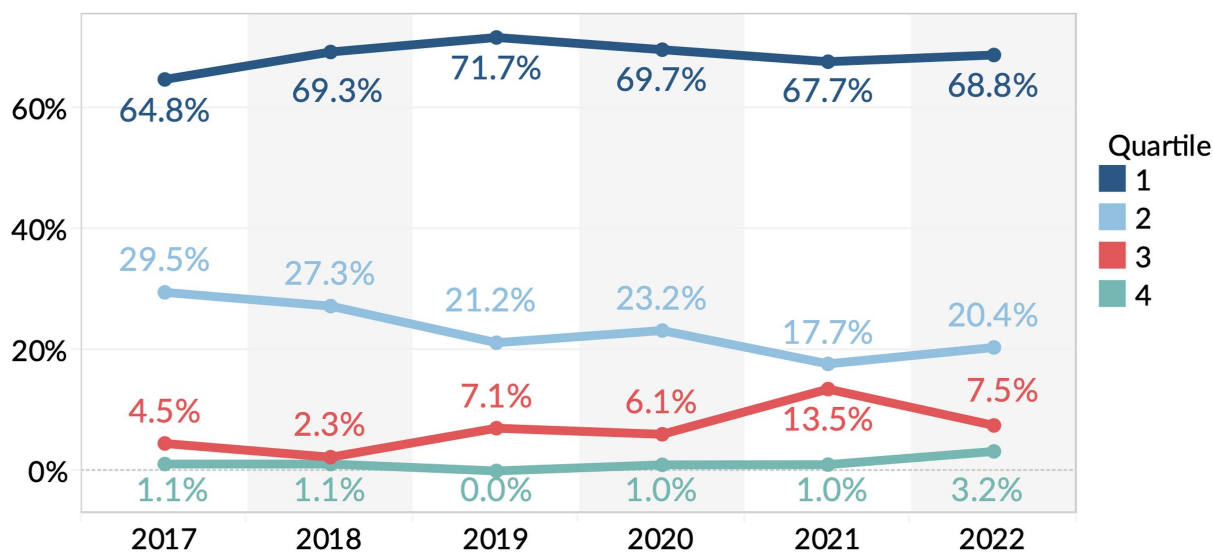
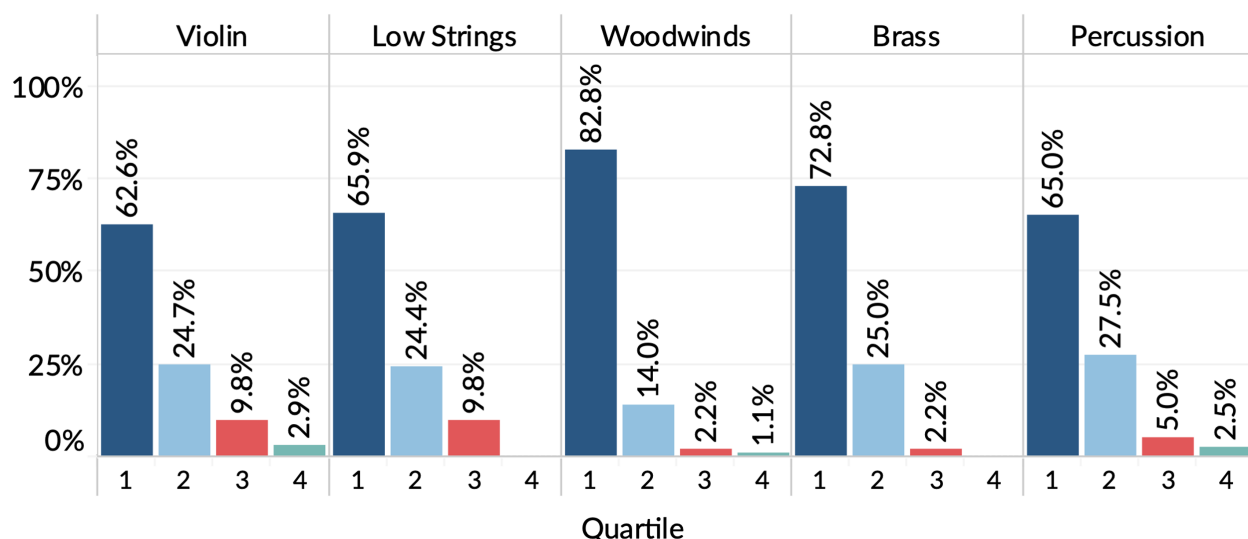


Figure 9 on the following page portrays the fact that the distribution of scores demonstrates a similar level of excellence is present throughout the different instrumental sections of the NYO2 ensemble.

Figure 9: Percentage of Accepted Applicants by Quartile and Instrument Group



A series of multivariate regression models using the application data revealed that there are factors that predict who among applicants will be successful. Each model was estimated using a similar procedure, in which the simple association between a particular factor (e.g., access to private lessons) and the likelihood of acceptance was first ascertained, and then subsequent analyses were conducted to determine whether there was a statistically-significant association between the factor of interest and acceptance after adjusting for the values of other variables (referred to as “covariates”) that were related to a student’s likelihood of acceptance in NYO2. (See Appendix for additional details regarding these analyses.)

The major points of these analyses are:

- Students who are Asian or from historically underrepresented groups are significantly more likely to be admitted to NYO2 than students who are White. The proportions of applicants are as follows: 25.0% White, 28.8% from historically underrepresented groups, 46.1% Asian and the proportions of accepted students: 21.9% White, 40.1% from historically underrepresented groups, 37.9% Asian.
- There was no association between household income and the likelihood of acceptance.
- There were modest associations between having access to private lessons and attending an arts magnet school and a higher likelihood of acceptance. However, only the association between magnet school attendance and acceptance held after controlling for relevant covariates.

With Freedom of Soul to Do and Be

These findings point to how much the composition of NYO2 owes to whether or not young people have access to opportunities like arts magnet high schools. The fact that family income, so often a correlate of achievement, does not predict acceptance into NYO2 also points to the powerful role that families, teachers, and community music schools play in supporting young musicians in their earliest years.

In the words of a professional trumpet player:

“ My sister and I played for our church congregation, and the morning and week after, we went door to door, collecting contributions to buy the instruments we needed in order to play well enough for our youth orchestra. It was a process of them investing in us as part of their future, everybody chipping in. When I got my trumpet, it was better than anything I had imagined and I remember thinking that now it was my job to live up to what that instrument could do, because people were counting on me.

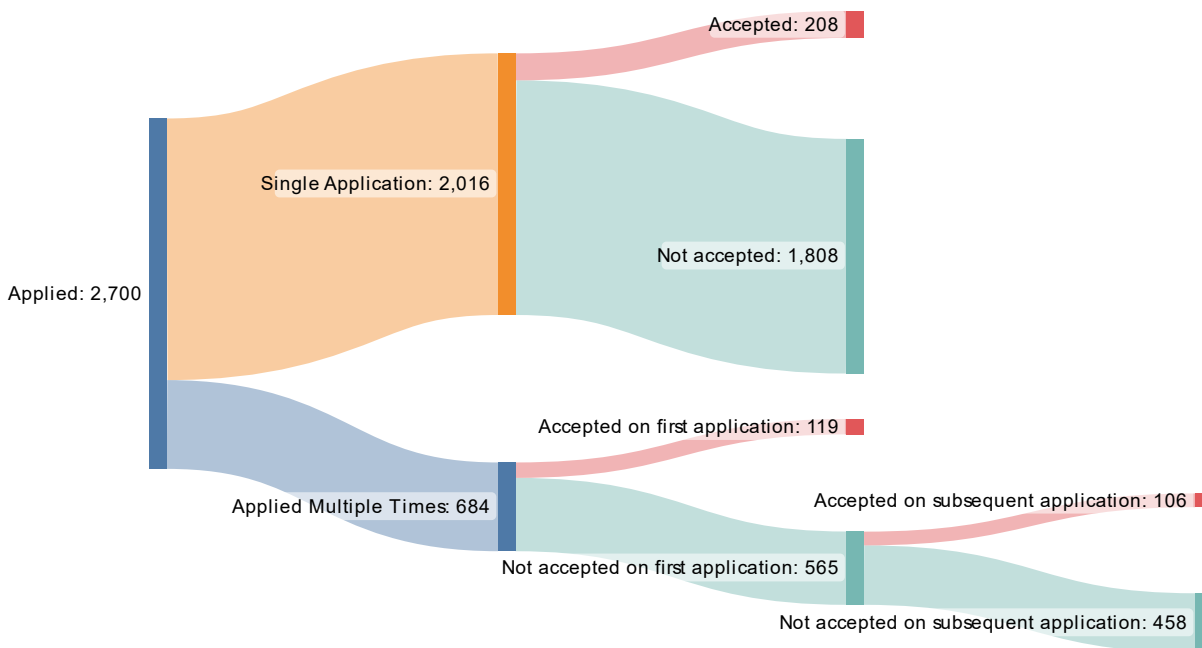
-Trumpet Player

Persistence Findings: Who Continues to Apply?

One of the ways in which NYO2 has shifted practice is to make clear that participants can, and are even encouraged, to re-apply. Both reviewers submit written feedback to all applicants, with the aim of making clear what they can do to strengthen their application. Materials on the alumni-driven NYO U site also address the topic of improving an application. One interesting result is that students do reapply, among them players from historically underrepresented groups, who often prove to be successful.

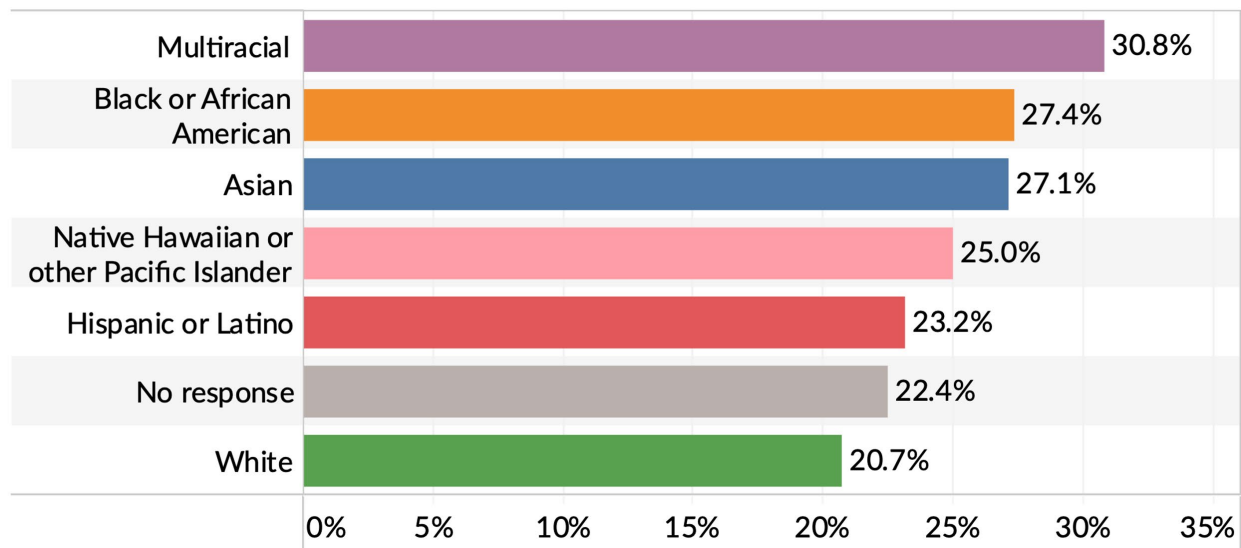
Joining NYO2 is a competitive process. More than 25% of applicants apply more than once. Of those, 17% got in on their next application, while 15% got in on a subsequent application. Figure 10 on the following page depicts this pattern.

Figure 10: Number of Applicants Applying Multiple Times



The same multivariate regression modeling approach used to identify factors that predicted acceptance into NYO2 was used to gauge what factors might predict a higher likelihood of persistence. The results of these models indicated that non-white students are significantly more likely to submit multiple applications as shown in Figure 11.

Figure 11: Percentage of Applicants from Each Racial/Ethnic Group Who Apply Multiple Times



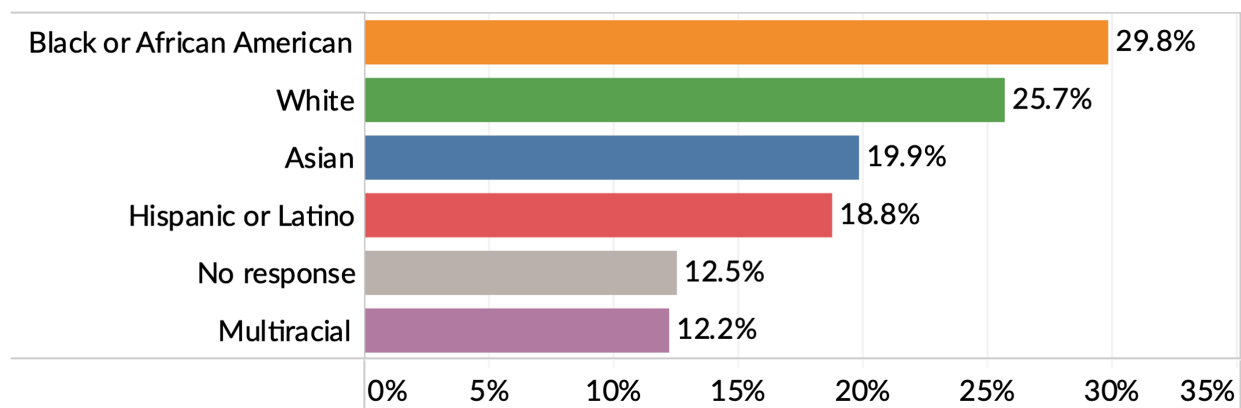
In addition, students from historically underrepresented groups were significantly more likely to become successful persisters (individuals who were admitted on later applications to the program). For instance, 6% of Black students, 5.1% of multi-racial students, and 4.2% of Latino or Hispanic students were successful persisters. At the very least, this suggests that the application and feedback process held open the possibility of joining while young musicians matured, or possibly that the feedback from judges and encouragement to re-apply was motivating.

Promotion Findings: Who Moves On in the NYO System?

The NYO orchestras are a system in which young people can persist and progress. Not only can NYO2 players re-apply up to age 17, they can also apply to move on into NYO-USA, Carnegie's senior youth ensemble.

Young people can apply to NYO2 for successive summers (until they age out) and then apply to join the senior ensemble, NYO-USA. Our analyses revealed that young people from historically underrepresented groups are more likely to be promoted from NYO2 to NYO-USA, as is clear in Figure 12. This suggests that their experiences in NYO2 are ones where they felt like they belonged, were valued, and could progress.

Figure 12: Percentage of NYO2 Participants from Each Racial/Ethnic Group Promoted from NYO2 to NYO-USA



In their words:

“I got the NYO bug; once you start you have to keep doing it until you can’t anymore. I made it my goal to get into NYO-USA.”

- Violin player, NYO2 2016

“Positive experiences over the summer are what drove my passion for music. The school year can get overwhelming, but participating in enriching programs with a community of musicians who come from all over the country really inspired and motivated me to continue to play. The cool aspects like traveling, playing in great halls, working with amazing conductors and guests, kept the spark alive.”

- Viola player, NYO2 2016

Longitudinal Survey Findings: Who Continues to Engage as a Young Musician?

Longitudinal analyses show that young people who pursue classical music through the NYO system are quite similar to their peers who pursue music through other pathways. By comparison, players from historically underrepresented groups who have come through the NYO system are distinct from their peers, as evidenced in their greater hourly engagement at both 1.5 and 3.5 years.

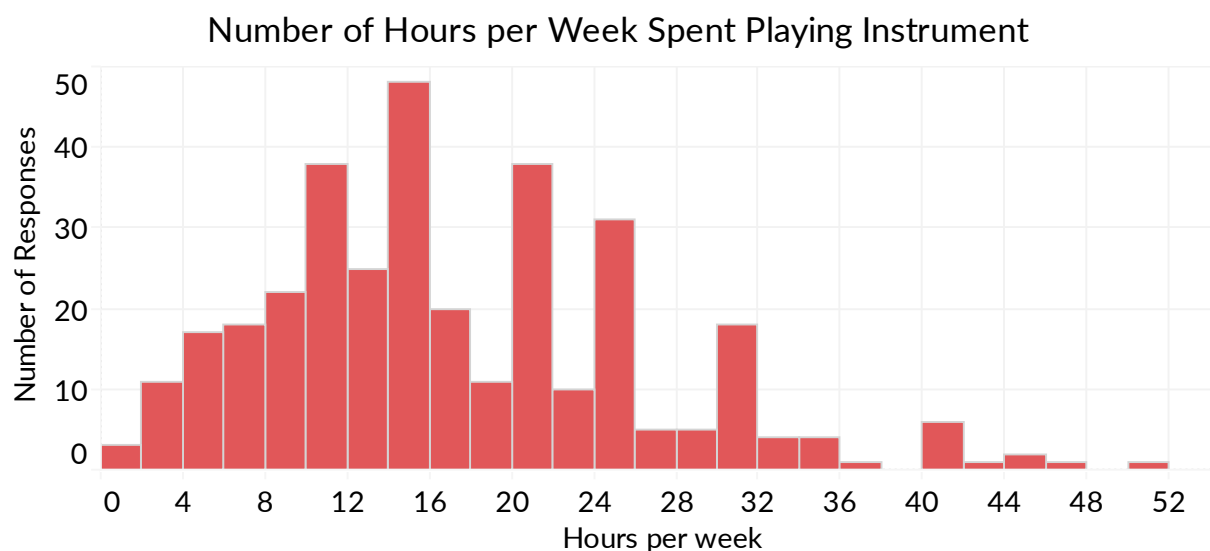
As mentioned, the original design called for following all the applicants from successive years of applications to NYO2 in order to compare persistence and engagement in music. However, early survey returns made it clear that the overwhelming majority of young people who responded were continuing to play music. Hence, the longitudinal annual survey study evolved into a comparison of two groups of active young musicians: those who pursued music via NYO2 and its upper division NYO-USA and young musicians pursuing music along other paths. Students filled out surveys roughly 1.5 years after their initial application to NYO2, and again at 3.5 years following their initial application, allowing us to follow them through high school and into college.

In our preliminary analyses we looked at a number of potential indicators of continued engagement with music, including the number and level of ensembles in which students

played and the number of hours per week they reported playing. We chose hours/week played because it was the indicator of persistence that was most within the students' locus of control (i.e., it didn't require students to have access to an ensemble, or to gain entry via audition), and because the distribution of the data for this indicator was approximately normal (i.e., that distribution approximates a 'bell curve;' see Figure 13). Not only does this mean that there is a substantial degree of variability between students in this indicator of persistence, but it also facilitates testing for significant differences in patterns of continued engagement for NYO2 and non-NYO2 participants, as well as among sub-groups of NYO2 participants. These tests were conducted by estimating a series of multivariate regression models in which the association between participation in NYO2 and continued engagement with music were assessed while controlling for other factors (e.g., gender identity) that were also associated with continued engagement. (See Appendix for details).

These analyses revealed that at the 1.5-year point, there are no differences in number or level of the ensembles in which NYO2 and their peers participate, or the barriers and supports they report. However, there is a nearly significant difference of 2 hours in the numbers of hours NYO2 players report playing. (See Appendix for details.) This difference is not present at the 3.5-year point.

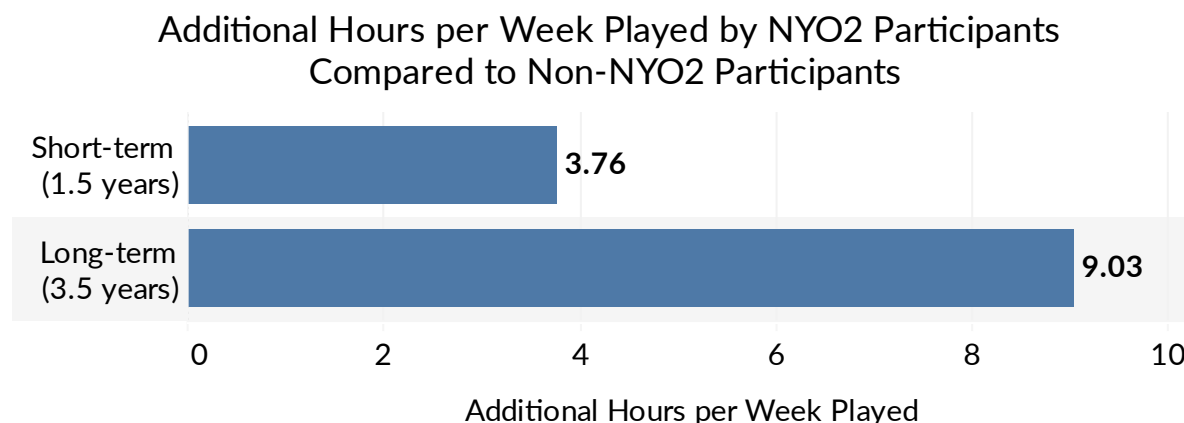
Figure 13: Continued Musical Engagement at 1.5 years



However, there are large differences between historically underrepresented groups in NYO2 and their non-NYO2-trained peers. Most notably, our results indicate that historically underrepresented musicians in NYO2 exhibit greater continuing musical engagement (as measured by number of hours played weekly) than their historically underrepresented peers who are continuing their music along other pathways, and that this difference increases across time. Using this same measure of musical engagement,

Figure 14 shows the average differences in hours played by those youth in NYO2 and other pathways, at 1.5 and 3.5 years.

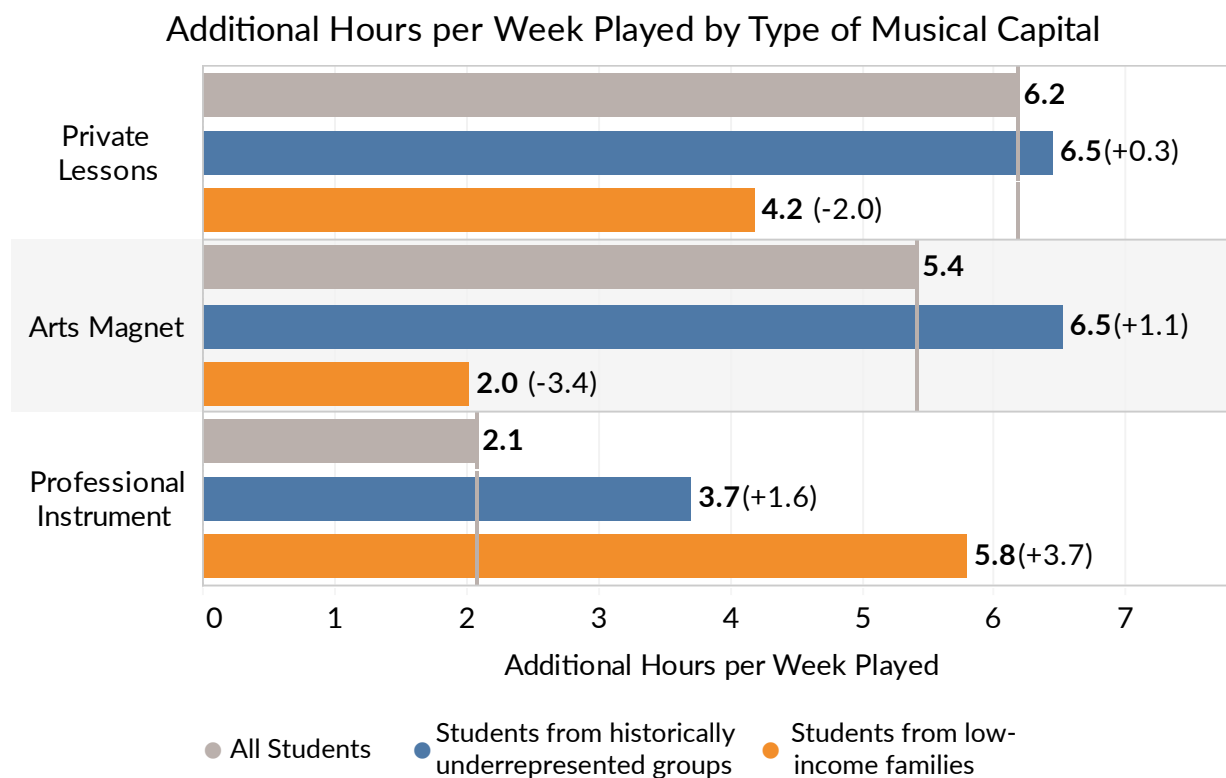
Figure 14: Continued Musical Engagement by Players from Historically Underrepresented Groups



The data indicate that NYO2 players from historically underrepresented groups report playing an average of 3.76 more hours more a week at 1.5 years (toward the end of their high school careers). However, at 3.5 years – often past their transition from high school to college – NYO2 players from historically underrepresented groups report playing an average of over 9 hours more per week than their peers who followed other musical pathways. These are self-reported data and we lack specifics about these hours (e.g., are they practicing, performance, mentoring, etc.). If accurate, they would seem to indicate a very active commitment to an ongoing musical life for historically underrepresented youth well into their college years. (The data on types of musical activities from the 2016 interviews shared in Figure 17 shed some additional light on these findings.)

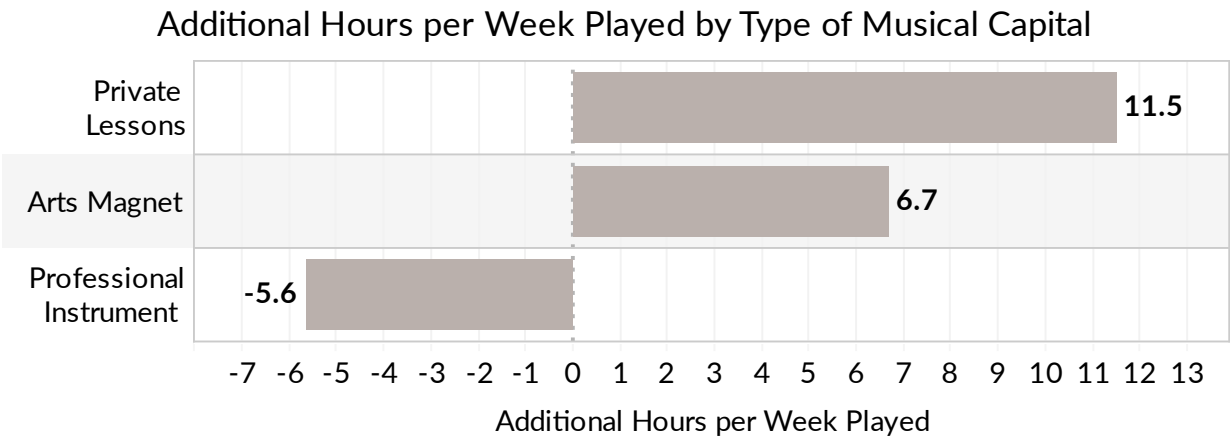
Additional analyses indicate what aspects of musical capital predict the extent of young players continued engagement at 1.5 years post their original application to NYO2. Clearly, private lessons and attending an arts magnet high school set young players from historically underrepresented groups players up to have the stamina to stay engaged at high levels. Having access to a professional quality instrument is highly correlated with low-income students' ability to sustain their engagement.

Figure 15: Musical Capital Predictors of Continued Musical Engagement at 1.5 years



At the long-term 3.5-year point, access to private lessons and attending an arts magnet school continue to have a strong positive association with additional time spent playing their instrument. However, we observe a negative association with access to a professional instrument that is both large and nearly statistically significant. (See Appendix for details.)

Figure 16: Musical Capital Predictors of Continued Musical Engagement at 3.5 years



In their interviews, players explain the power of these factors to fuel their engagement.

In their words:

“Without the Atlanta Symphony’s Talent Development Program, I wouldn’t have been able to go to NYO2 or do anything. If it weren’t for that funding it would have been a real struggle. I got free lessons, and I probably wouldn’t be here without them.”

- Tuba player, NYO2 2016

In their words:

“Someone in the Louisiana Phil Orchestra who knew my teacher offered to sell us a violin. This definitely had an impact on my playing. I heard a sound change with the new instrument, and I think that really motivates you to get better.”

- Violin player, NYO2 2022

Findings from Retrospective Interviews of 2016 Cohort: Who Are Alumni as Musicians?

Follow-up interviews with the initial cohort of NYO2 players from 2016 shed light on what distinguished that experience from others in their musical career. Their responses to additional survey questions illuminate the particular impact of the program for them as musicians coming from historically underrepresented groups: their continued playing, their determination to have a career in music, and the many ways in which they are determined to give back to the musical field.

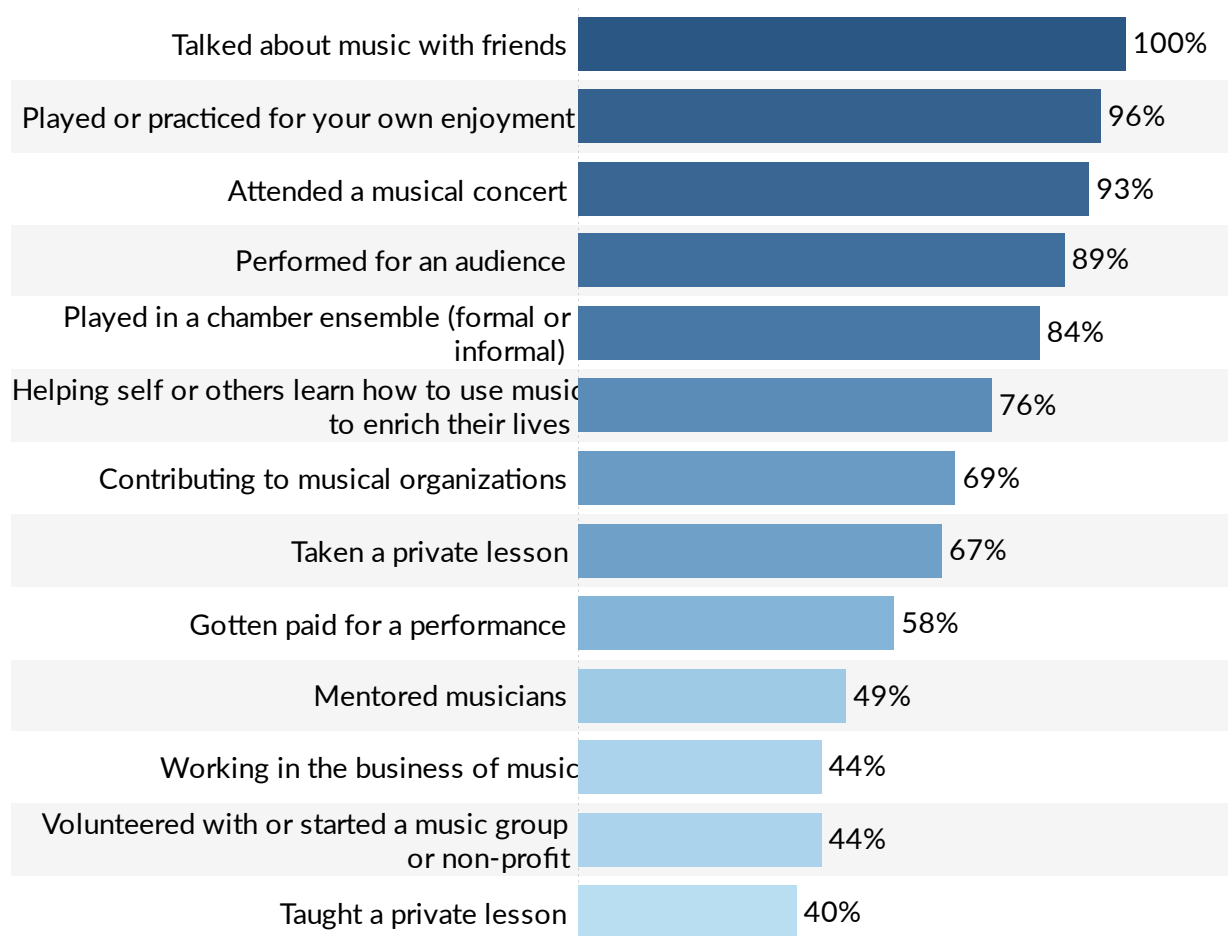
To understand more about the roots of these findings, we contacted the original NYO2 cohort from 2016, inviting them to participate in 1-on-1 interviews conducted over Zoom by two members of the research team who were former NYO2 and NYO-USA members, one Latinx and one Asian-American. 57% of that initial cohort agreed to be interviewed. This included 45 of the original 78, 50% of whom identified as coming from historically underrepresented groups (Black – 33%, Asian – 28%, Hispanic/Latinx – 18%, White – 18%, American Indian – 2%, Other – 4%). In their interviews, these young musicians suggested a number of factors that made their experience at NYO2 powerful. While the sample is self-selected and the work remains exploratory, they nominate a number of factors that confirm and enrich the importance of a number of the opportunity structures outlined earlier:

- **Complex diversity:** The program brings together young people who differ in many ways: geography, race, ethnicity, gender identity, years in the NYO orchestras, and previous access to musical capital (e.g., drum major and conservatory student). They play side by side in full rehearsals and sectionals, but also in informal chamber music sessions.
- **Horizontal excellence:** Many young people have come up in a system that features strict hierarchies of musical excellence (consider the tiered orchestras inside larger youth orchestras, the seating within sections, private teachers' decisions about whom to accept into their studios). They describe their time in NYO2 as an opportunity to move away from that kind of strict ranking. Even in a single sectional rehearsal, players rotate through playing the solo parts.
- **An emphasis on growth:** Young people describe a pedagogy that makes room for commitment, hard work, and growth. They point to the ways in which faculty members come out of the auditorium and onto the stage to play beside them in a particularly difficult passage. They also speak to how much informal access they

had to coaches and conductors. They appreciate hearing from those same adults about their own musical development, including encounters with racism and being underestimated because of their identity.

In addition to these insights, the survey items in interviews were coded to yield a portrait of who these young musicians have become six years later. Ninety-one percent still play and when asked to list their musical activities from the last three to six months, these include the following wide range of musical commitments:

Figure 17: Musical Activities Reported by Interviewees



Additional analyses focused on comparisons between students from groups with longer-standing access to performing Western classical music (White players who have long been included, Asian-identifying individuals whose access has risen steeply since the 1970s) and interviewees from historically underrepresented groups who continue to be under-represented. Those findings echo the patterns of earlier survey analyses showing an emphatic and continuing engagement with classical music that is larger in magnitude than that of their peers.

Figure 18: Continuing to Play (HU = From Historically Underrepresented Groups)

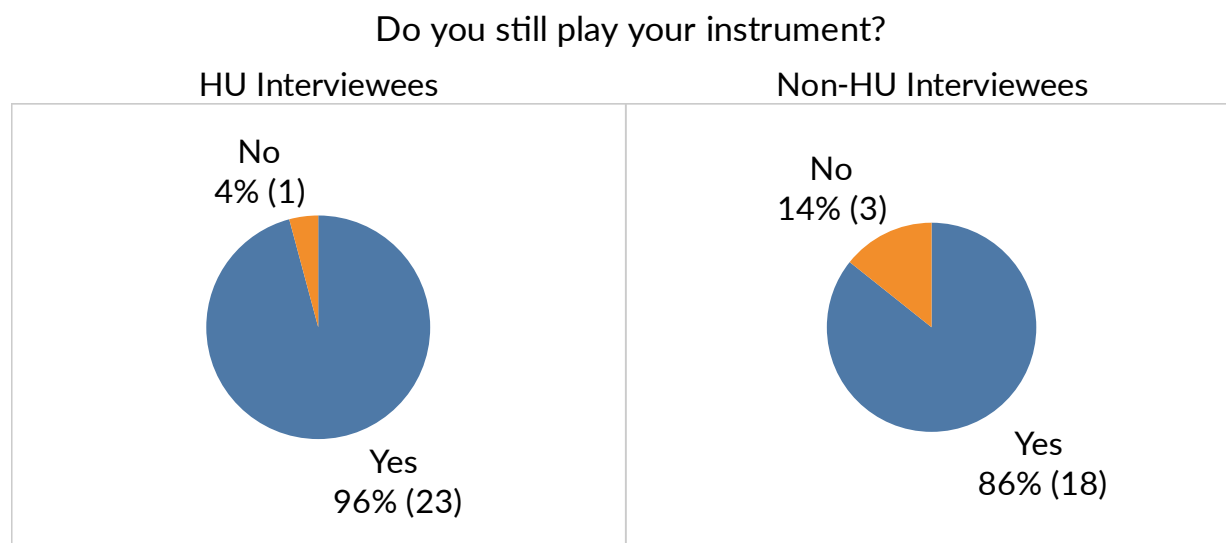
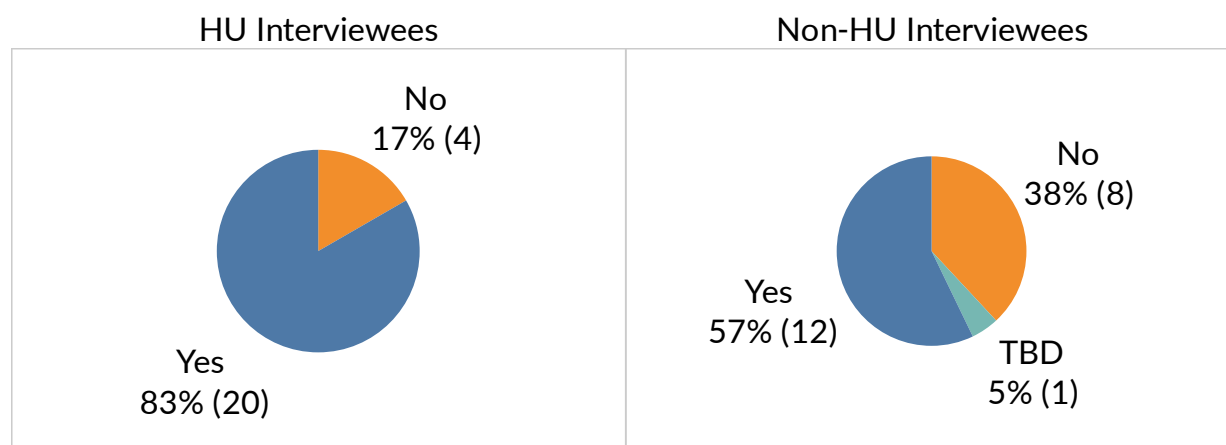


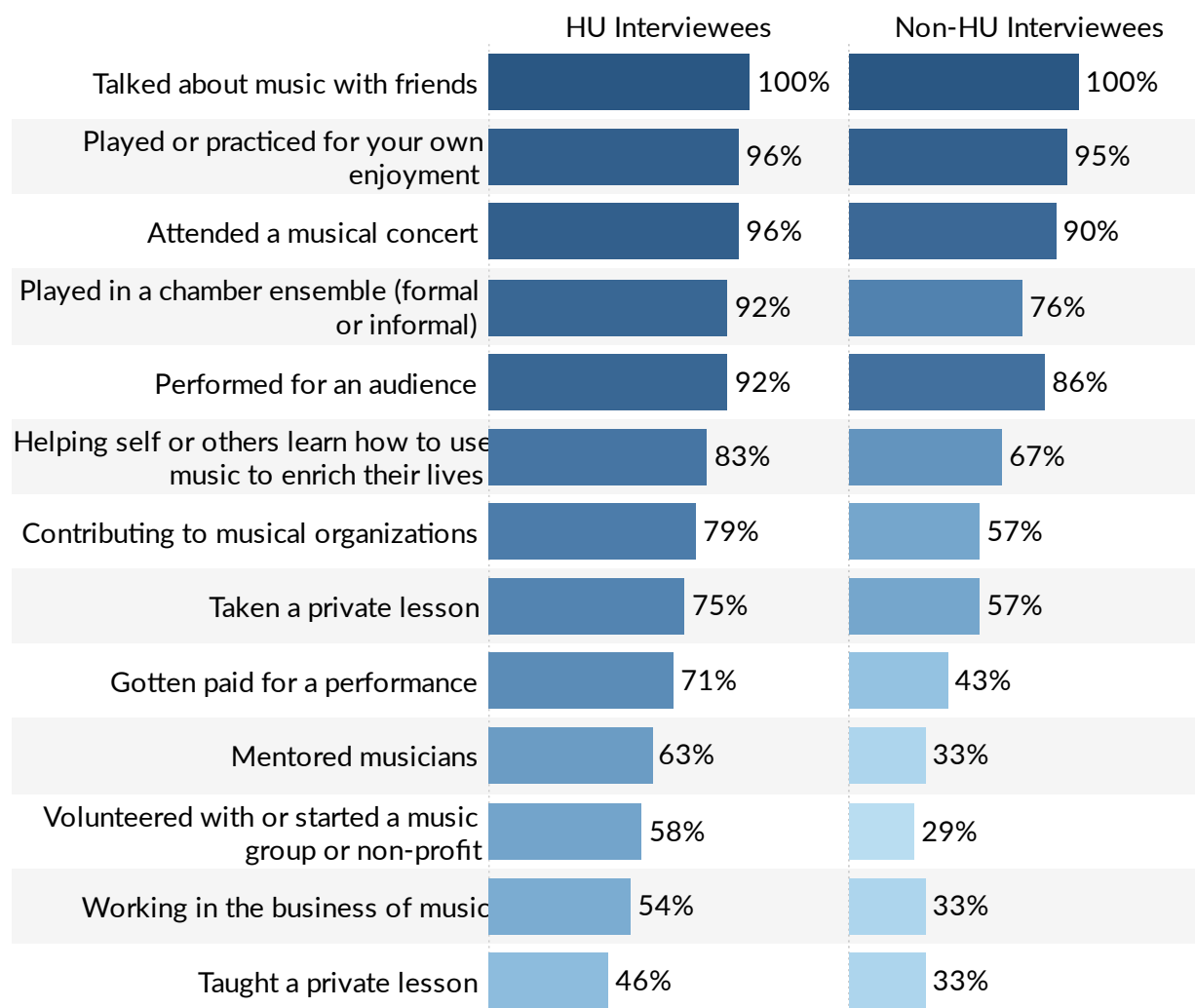
Figure 19: Future Career Thoughts

Do you see yourself pursuing a career where having a musical background is important or necessary?



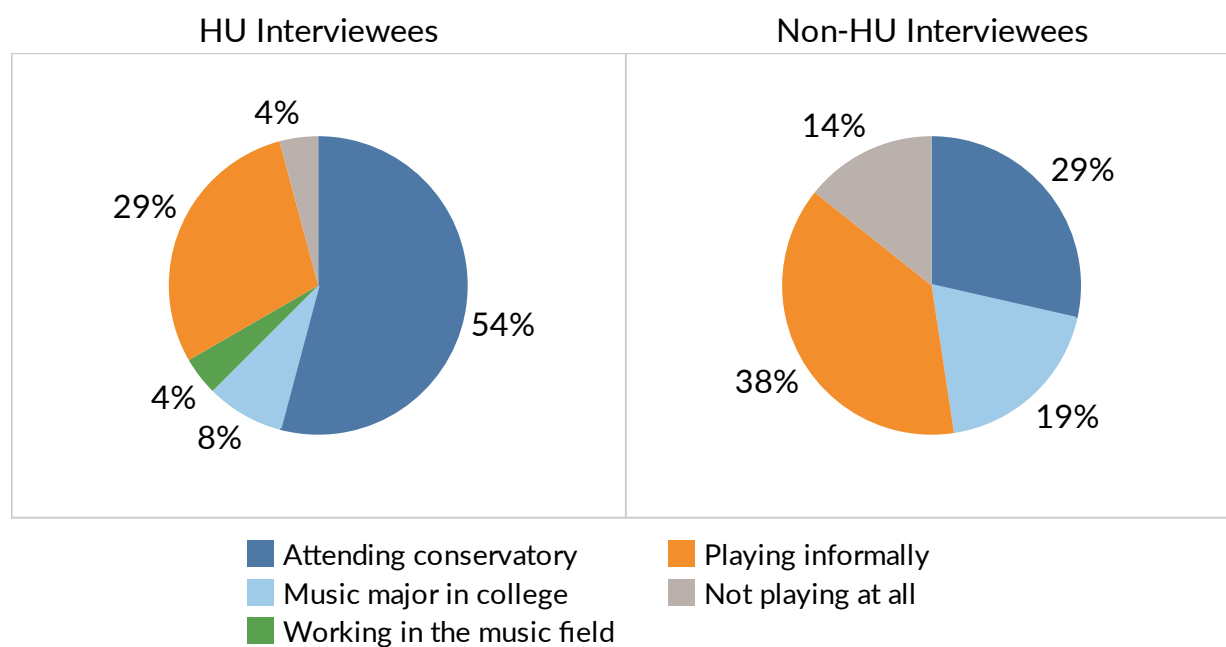
Youth from historically underrepresented groups also exhibit a distinctive profile of musical activities, where activities of giving back or “paying it forward” (e.g., teaching, mentoring, contributing, volunteering) occur at much higher levels.

Figure 20: Musical Activities Reported by Interviewees



Additional data reveal that 54% of the historically underrepresented members of the cohort are in conservatory, an additional 8% are music majors, and 4% are working in the music field. These young musicians are just finishing their undergraduate years, so clearly it remains to be seen how many of them stay engaged in classical music in a professional way, and where in the musical world they end up.

Figure 21: Current Level of Musical Activities Reported by Interviewees





Limitations of the Study

This study makes the argument that there are important links between opportunity structures, belonging, musical identity, and persistence in the field of classical music. But that argument is in the early stages of development. The current study has a number of limitations. First, only young musicians who continued to play participated in the study: so findings only apply to young musicians who have the interest, motivation, and time to continue participating. Second, there is no random assignment of young people to the groups of longitudinal participants: those pursuing their path in the NYO system and those pursuing their musical training along other paths. As a result, we cannot argue that the NYO2 experience caused the patterns of persistence, engagement, and future orientation that distinguish NYO2 historically underrepresented students from their non-NYO2 peers. Third, members of the research team who conducted interviews and observations included Carnegie Hall staff (from other programs) as well as former participants. While this choice provided invaluable insider knowledge, it may have compromised objectivity. Fourth, this work was conducted by a large cultural institution with major resources to devote to changing and enriching practices. As such, the work may not generalize to other youth orchestra settings. Finally, stepping back, we have no comparable data (surveys, observations, or interviews) from other programs that are at work on similar changes to classical music training. So we cannot speak to the generalizability of what we are proposing.



Discussion: What Are the Implications?

Who we are is always in flux – our selves are in constant dialogue with the experiences, situations, and other people we encounter.³⁷ Thus, the environments in which young adults mature co-construct how they see themselves, their sense of worth, and choice of path. Young musicians, particularly in their high school and college years, are engaged in forming their musical identities – their sense of whether or not they want to and have the skills and determination to become a French horn player, not just a person who can play the French horn. This is a long process is shaped by a long history of beliefs and practices.

Young individuals from historically underrepresented groups in the contemporary U. S. find themselves in a world where the available opportunities to learn and progress are unevenly and unfairly distributed in ways that reflect many of the other structural inequalities that surround them. This has long been starkly true in the world of Western classical music where players, conductors, composers, and repertoire fail to represent the diversity of the nation and the range of its musical traditions. Thus, for young musicians from historically underrepresented groups, learning to play is often coupled with a series of encounters that say, “You don’t belong here on the big stage. Play all you want in clubs or churches.” The result: many leave the field, many American orchestras and chamber ensembles remain largely White and Asian, and the musical field is stripped of the range of perspectives, musical histories, and approaches to performance that a more inclusive musical world would include.

The study reported here is an investigation about whether those interactions can change – and whether such changes can affect whether and how young people see themselves as musicians, notably players or contributors to the world of classical music which has historically been overwhelmingly White and Western in its repertoire, performers, and audiences. The study was rooted in the practices of a specific youth orchestra, Carnegie Hall’s NYO2, which was founded to explore whether and how a commitment to extraordinary playing could be balanced with an equal commitment to changing the messages about who can enter, persist, and thrive as a classical musician. Thus, throughout its history, the staff and faculty have put in place a deliberate network of opportunity structures designed to level the playing field. These included choices such as the design and implementation of the application process, the process of juries and

³⁷ Miell, D., MacDonald, R., & Hargreaves, D. J.(2005) Musical communication. Oxford University Press.

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selection, the racial and ethnic identities of the staff and guest artists, the choice of repertoire, and the rotation of players through first chair positions.

As noted in the section on limitations, the findings reported require further investigation. But even if viewed cautiously, the data make several key points.

- There are significant numbers of young historically underrepresented players who want to pursue classical musical training. (Between 429 and 666 young people apply to NYO2 annually, with a range of 34 - 49% of those individuals reporting historically underrepresented identities.)
- There is no trade-off between selecting highly accomplished players and forming an ensemble that more nearly reflects the population of the contemporary U. S. The overwhelming majority of NYO2 players come from the upper half of reviewers' scores, in a program likely to attract serious players determined to go on.
- It is possible to change the received habits of youth orchestra programs through the addition of micro- and macro-opportunity structures that replace exclusionary practices with welcoming ones and emphasize growth over competitive achievement.
- Those opportunity structures, underscored by the presence of adult coaches, conductors, and staff who endorse those ways of working, can make a difference in whether young people from underrepresented communities persist and continue to engage actively in the classical music field. In NYO2, many historically underrepresented applicants re-apply until they are accepted and persist over several years in NYO orchestras. As college students they play 9 hours a week more than their peers who followed other musical paths.

Taken together, these findings suggest that it is possible to enact, not merely declare, a commitment to diversity, equity, inclusion, and belonging. However, doing so demands an intense focus on identifying and changing received, unexamined, and exclusionist practices and developing new ways of working that emphasize growth and belonging. Where this happens, there may be important consequences for how all young people see their lives as musicians. But the effects appear to be particularly strong among young people who have historically been marginalized. These changes, if pursued, could lead to a very different generation of players: accomplished, diverse, and experienced in what it takes – on their part and on the part of an institution – to challenge and change established practice.

Carnegie Hall has been able to bring enormous resources to this table: dollars, skilled staff, and a corps of adult musicians who step away from summer festivals, touring, and practice time to make a difference. But increasing numbers of youth orchestras and pathway programs are engaged in similar work. These results should not remain local, separate, and implicit. We need a national conversation about pathways into the arts: what makes a

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difference and for whom. In this respect, youth orchestras may be one of the liveliest laboratories for change in the world of Western classical music.

In addition, there is a vital conversation waiting to be held between the work being done in youth orchestras and aligned efforts in fields like ballet, filmmaking, theater, and the visual arts. There is a still wider conversation needed across the arts and other historically competitive and exclusive fields like science, mathematics, and engineering. It is a conversation about what transforms the formal equity of common rules to the substantive equity of equal opportunity to develop the capacities needed to thrive in a specific field. It is a conversation and a set of commitments that is especially timely as earlier arguments about how to distribute opportunities fairly are being challenged. In this discussion, the arts could – given courage – play a role in realizing the world Du Bois envisioned:

*... a realm of true freedom: in thought and dream, fantasy and imagination; in gift, aptitude, and genius—all possible manner of difference, topped with freedom of soul to do and be, and freedom of thought to give to a world and build into it, all wealth of inborn individuality. Each effort to stop this freedom of being is a blow at democracy—that real democracy which is reservoir and opportunity . . . There can be no perfect democracy curtailed by color, race, or poverty.*³⁸

- W. E. B. Du Bois

³⁸ Du Bois, W. E. B. (2007 (1947)). in *The World and Africa: An Inquiry into the Part Which Africa Has Played in World History*. (Oxford University Press, 165.)



Technical Appendix: Methods and Analyses

Throughout the paper we report the results of analyses of different forms of data collected in the course of our mixed-methods, longitudinal study of NYO2 (see p. 25, Table 2 for a summary of these data).

Many of these analyses were descriptive, such as the proportion of applicants and accepted students who identified as historically underrepresented (see p. 28), or the number of applicants who applied multiple times to NYO2 and their outcomes. However, some of these analyses featured more complex approaches designed to isolate the association between participation in NYO2 and persistence in music, or to test whether such association (or others like it) were statistically significant.

Example 1: Predicting Acceptance

For example, we used a series of multivariate regression models to examine what factors predicted acceptance into NYO2. (Note: To avoid “double-counting” applicants, we used the first application submitted by each individual for this particular set of analyses). However, before running these models, we conducted preliminary analyses to determine the nature of the association between each factor and the likelihood of acceptance into NYO2. A series of chi-squared tests revealed that applicants who identified as male were significantly more likely to be accepted into NYO2 than applicants who identified as female ($X^2(1)=7.05$, $p=.008$), as were students who identified as coming from groups historically underrepresented in Western classical music (relative to those who identified as White or Asian; $X^2(2)=19.1$, $p<.001$). A parallel series of independent samples t-tests indicated that applicants who were slightly older at the time of their application were more likely to be accepted into the program ($t(258)=4.00$, $p<.001$). However, additional t-tests revealed that the applicants’ household income ($p=.484$) and the size of their hometown ($p=.950$) were unrelated to acceptance into the program. These preliminary analyses further indicated a modest association between acceptance and receiving private lessons ($X^2(1) = 2.11$, $p=.156$) and attending an arts magnet school ($X^2(1)=2.59$, $p=.108$). But there was no evidence of such an association between acceptance and owning a private instrument ($p=.469$) or having a musician in the family ($p=.525$).

The first multivariate regression model predicted the likelihood of acceptance into NYO2 as a function of receiving private lessons after controlling for gender identity and race/ethnicity; the second model predicted the likelihood of acceptance as a function of attending an arts magnet school while controlling for the same covariates. Receiving private lessons was not associated with a significantly higher likelihood of acceptance into NYO2 ($p=.147$); however, attending an arts magnet school was associated with a higher likelihood of acceptance at a rate that was nearly significant ($B=0.36$, $SE=0.19$, $Wald(1)=3.53$, $p=.060$; see p. 17).

Example 2: Persistence

We used a similar multivariate regression approach to examine the association between applicants' identification as a member of a historically underrepresented group and the number of applications submitted (see p. 28 of the report). In this model, the number of applications submitted was regressed on applicants' reported race/ethnicity, which was coded as White, Asian, or a combined category of Black or African American, Native Hawaiian or other Pacific Islander, Hispanic or Latino, or Multiracial.³⁹ The model results revealed that there were statistically significant, overall differences in the number of applications submitted by applicants from different racial/ethnic groups ($F(2, 4848)=143.2$, $p<.001$), and that applicants who identified as White submitted significantly fewer applications, on average, than those who identified as Asian ($p<.001$) or those who identified as Black or African American, Native Hawaiian or other Pacific Islander, Hispanic or Latino, or Multiracial ($p<.001$).

To examine whether identifying as historically underrepresented would be associated with the likelihood of being a successful persister (that is, whether they would be admitted to NYO2 after being rejected on their initial application; see p. 33), we examined the distribution of applicants' persister status (successful/unsuccessful) as a function of their race/ethnicity using the same three categories described above. The results of a chi-squared test (which tests whether the observed distribution differs from what would be expected if there were no association between persister status and race/ethnicity) yielded a statistically significant result ($X^2(2)=19.7$, $p=.001$). A similar approach was used to assess whether identifying as historically underrepresented would be associated with the likelihood of being promoted from NYO2 to NYO ($X^2(2)=12.3$, $p=.002$). Here the results of the chi-squared test were also statistically significant,

³⁹ Note that this aggregate of non-White, non-Asian applicants was created solely to avoid an unacceptably large number of comparisons between different racial/ethnic groups when testing for statistical significance. Here and throughout, racial/ethnic group differences are reported in a disaggregated fashion, such that differences between Black or African American and Hispanic or Latino applicants (for example) are preserved.

indicating again that identifying as historically underrepresented was associated with a higher likelihood of promotion.

Example 3: Continuing Engagement

As noted in the body of the report (see p. 36), we measured continued engagement in music using the number of hours per week individuals reported playing on the 20- and 43-month follow-up surveys. Our preliminary analyses revealed that survey respondents who had participated in NYO2 reported playing significantly more hours/week ($M=18.3$, $SD=9.21$) than their peers who had not participated in NYO2 ($M=15.6$, $SD=8.92$; $t(338)=2.77$, $p=.006$). However, these analyses also suggested that a number of other factors, including age, gender identity, race/ethnicity, and household income at the time of application were associated with the number of hours/week respondents reported playing. To isolate the effects of NYO2 on continued engagement in music, we conducted a multivariate regression model that predicted hours/week played at 20 months as a function of NYO2 participation after controlling for (i.e., statistically adjusting for the values of) these covariates. As reported on p. 36 of the report, the results of this model indicated that after accounting for these factors, participation in NYO2 was associated with approximately 2 additional hours/week of playing, and that this association approached, but did not quite achieve, statistical significance ($B=1.93$, $SE=1.03$, $t=1.88$, $p=.061$).

We conducted similar analyses to better understand the effects of NYO2 participation and access to other aspects of musical capital on continued engagement in music within two sub-samples of particular interest: respondents who identified as historically underrepresented, and respondents who came from lower-income households (defined as households making $<\$75,000/\text{year}$) at the time of their application. The results of these analyses are summarized on p.38 of the report.

Our preliminary analyses indicated that among students who identified as historically underrepresented having access to private lessons, attending an arts magnet high school, and owning a professional quality instrument were each associated with higher levels of continued musical engagement, as indexed by additional hours/week played and as reported on the 20-month follow up survey. A series of multivariate regression models that controlled for relevant covariates (respondents' gender identity and socioeconomic status, per the results of our preliminary analyses) revealed that among historically underrepresented respondents: 1) private lessons were associated with approximately 6 additional hours/week played ($B=6.46$, $SE=3.24$, $t=1.99$, $p=.050$); 2) attending an arts magnet high school was associated with an additional ~ 6.5 hours/week played ($B=6.51$, $SE=2.39$, $t=2.72$, $p=.008$); and 3) owning a professional

quality instrument was associated with ~3.5 hours/week played ($B=3.70$, $SE=2.16$, $t=1.71$, $p=.092$).

Preliminary analyses conducted with the sub-sample of 67 respondents who were from households earning less than \$75,000/year at the time of their application revealed that, within this sub-sample, no potential covariates were significantly or nearly-significantly associated with continued musical engagement as indexed by hours/week played reported on either the 20- or 43-month follow-up surveys. Therefore, our analyses of factors associated with hours/week played within this sub-sample were restricted to simple tests of differences in means between groups. These analyses indicated that among respondents to the 20-month follow-up survey who were from low-income households at the time of their application: 1) access to private lessons was associated with approximately 4 additional hours/week played ($M_{\text{difference}} = 4.18$, $SE=2.94$, $t(57)=1.42$, $p=.161$); 2) attending an arts magnet high school was associated with ~3 additional hours/week played ($M_{\text{difference}} = 3.03$, $SE=2.37$, $t(57)=1.28$, $p=.207$); and 3) owning a professional quality instrument was associated with nearly 6 additional hours/week played ($M_{\text{difference}} = 3.03$, $SE=2.37$, $t(57)=1.28$, $p=.002$).

We employed a similar approach to examine whether participation in NYO2 was associated with continued engagement in music among respondents who identified as historically underrepresented or among those who were from low-income households at the time of their application. The results of our multivariate regression analyses indicated that among respondents who identified as historically underrepresented, participation in NYO2 was associated with approximately 3.5 additional hours/played on the 20-month survey ($M_{\text{difference}} = 3.76$, $SE=2.01$, $t=1.88$, $p=.064$) and approximately 6.17 additional hours/played on the 43-month survey ($M_{\text{difference}} = 6.17$, $SE=5.55$, $t=1.11$, $p=.285$). In both cases, these analyses controlled for participants' gender and socioeconomic status. The analogous analyses for the sub-sample of respondents from low-income households did not yield significant results.