By Alejandro M. Cremaschi, NCTM; Ksenia Ilinykh; Elizabeth Leger; and Nathan Smith

# Students Who Quit Music Lessons

## Recent Research And Recommendations For Teachers

Music teachers recognize that most students will stop taking music lessons sooner or later. In some cases, lessons stop because the student, parent or teacher believe the primary goals have been achieved, and it is time to move on—for example when the student has become independent enough to play on his or her own. But in other cases students or parents decide to quit lessons prematurely, before these goals have been attained. Are there common factors among students and families who choose to quit prematurely? Can teachers somehow identify at-risk students and prevent lesson attrition from happening in their studios? This article reviews several research studies that have focused on the phenomenon of attrition in music lessons. The goal is to provide an overview of the reasons influencing premature dropouts and to offer suggestions that may help teachers prevent attrition in their studios.

Attrition in music lessons is a concern not only because of the financial implications for the teaching profession, but also because dropping out prematurely from music instruction may preclude students from experiencing the full benefits of music learning. Researchers have found several factors that influence student dropout. Some of these factors include the type of initial and continuing motivation displayed by students, their practicing habits and practicing strategies, the characteristics of their teachers, their family's parenting styles, their parents' attitudes toward music, and the self-concept and expectations for success of the students themselves.

Student dropout at certain ages and stages of music study is a trend that was clearly document by 2 large-scale studies conducted more than 20 years ago. Daniel V. Steinel, who gathered information from hundreds of independent music teachers, reported a sharp drop in students taking private lessons as they grew older. For example, the percentage of boys taking lessons dropped from 33.6 percent when they were 9 years old, to 9.8 percent when they were 17.[1] Likewise, a 1990 survey of independent music studios conducted by Music Teachers National Association documented a large decline in studio enrollment between elementary and secondary school.[2] While there are no recent large-scale studies on lesson dropout rates, anecdotal information gathered by these authors seems to support the existence of trends even now.

## The Benefits Of Music Lessons

Why should teachers and society at large care about premature lesson discontinuance? Lesson discontinuance is not just a loss for the teacher, but for students as well. By dropping out of lessons prematurely, students are prevented from reaping the benefits of music study. Years of research have uncovered actual and perceived benefits of studying music at all ages.[3] Adults who took or had taken piano lessons, for example, reported personal benefits such as skill acquisition and development, personal growth, fulfilling a dream and personal pleasure.[4] Another study showed children, parents and teachers identified development of discipline, concentration and self-esteem as perceived benefits they attributed to music study.[5] Studies with high school students have revealed benefits such as academic achievement and civic engagement.[6] Despite the fact that a recent study has shed doubts on the often-made claims about the benefits of music study on SAT scores,[7] other studies have shown intellectual, social and personal benefits of music study for children and young people.[8]

Dropping out of lessons early may be a determining factor in whether students continue music making into their adulthood. A study of adults who had taken lessons as children showed the consequences of dropping out of lessons before a certain degree of proficiency had been acquired. Quitting lessons affected their future playing: many of those (80 percent) who reported not playing an instrument anymore had quit at age 14 or before.[9] The same study found that many (67 percent) who reported not playing piano anymore as adults had taken lessons for only 3 years or less, while many of those who still played piano (64 percent) had taken more than 3 years of lessons. Another study found that children who continued to study for approximately 6 years were more likely to develop skills allowing them to continue to play.[10] Both of these studies suggest that those who still had the skills to play their instruments later in life typically studied for a longer period of time.

Perhaps most importantly from a social point of view, arts and music education both in childhood and adulthood has been shown to predict the rate of participation and attendance of cultural events in adulthood. Arts and music education in childhood typically leads to more participation in the arts in their adulthood. This makes arts education a vital element in the sustainability of a healthy and diverse cultural "ecosystem" in the nation.[11]

## Teachers' Perception Of Attrition Factors

Music teachers who have been in the teaching profession for some time are likely to have taught students who decided to discontinue lessons. Some researchers have turned to these teachers for clues on attrition. In these studies, teachers often identify students' loss of interest,[12] lack of perseverance,[13] unwillingness or lack of time to practice,[14] heavy schedule demands and parental attitudes[15] as important factors for quitting. Teachers also cite valuing of music and personal interest in lessons as a significant determinant of lesson retention.[16] Additionally, teachers believe dropouts frequently underestimate their ability[17] and possess low self-confidence.[18]

But despite the close contact with the student, teachers may not be aware of a number of other important environmental, social, motivational and personality factors that can influence the decision to stop lessons.

## The Students' Points Of View

While trying to uncover the causes for attrition, several studies have focused on the students' perspective. A more thorough understanding of the reasons for beginning and continuing piano lessons from the point of view of the student might help teachers prevent attrition. The following studies relied on interviews or questionnaires of current students or of adults who quit lessons as children.

Researcher Jessica Briggs obtained questionnaire responses from 71 children in northern Indiana who were taking piano lessons. The findings suggested that children enrolled in lessons for personal enjoyment and for attainment of skill. Statements from the children included, "I thought it would be fun" and "I wanted to know how to play

piano." Children of all ages agreed on similar reasons for continuation of lessons, although older students (12–17) rated the desire to become better pianists higher than younger ones (7–11). The author concluded that, from the point of view of the students, lesson success depended on lesson enjoyment and that teachers should take advantage of the older children's desire to improve by increasing the challenges of the lesson as the students made progress. For younger students, keeping in mind that they want to experience fun in their music making can influence how the material is taught.[19]

A yearlong study of 412 fourth- through seventh-grade beginning band students found that, as attitude toward music study became less positive, the rate of attrition increased. Students agreed that loss of interest and not liking to practice had the strongest impact on their withdrawal.[20] Even though this study focused on band students in a school system, it is important to note that the findings support the fact that enjoyment played an important role in retention.

Other studies have focused on adults who quit lessons as children. Kenneth Williams conducted in-depth interviews with three such adults. The participants discussed their student experiences with the researcher, focusing specifically on the reasons they stopped lessons. Content analyses revealed that the reasons and factors for quitting were complex, and that parents, teachers and students were all key players in the decision to stop lessons. Some reasons for quitting lessons were not getting along with the teacher, dissatisfaction with the music they studied, not having fun and lack of interest in practice.[21]

The student's perception of piano and their self-perception as a pianist is another important aspect of the lesson experience. In a study by Thelma Cooper of 564 adults, those participants who had only taken piano as children cited enjoyment of the music and supportive teachers as reasons for lesson satisfaction. Results also suggested that the demands of other activities and interests were important factors for discontinuing lessons, affecting equally those students who rated themselves as less and more skilled at the keyboard. Students who had quit rated the lessons more negatively, and, in agreement with Williams's study, indicated not liking the music, and not liking practice. More importantly, the study found those students who quit playing were more likely to have a poorer self-perception of their keyboard skills.[22]

Anecdotally, music teachers sometimes single out competing sport activities as culprits for children quitting music. It is interesting to notice that attrition is also a concern in the field of sports. Some of the dropout factors cited in music research are uncannily similar to those uncovered by studies of young athletes. For example, Spanish swimmers ages 14–30 who had quit mentioned demands of other activities, lack of fun and low self-perception of skills.[23] Another survey of 237 parents of children who had discontinued hockey also frequently cited demand of other activities, lack of fun and lack of interest.[24]

Most of the studies cited above serve as a first approach to the phenomenon of attrition in music lessons. But reasons such as lack of interest and fun, and the presence of competing activities are only the tip of the iceberg that raises the question: Why are these students not having fun? Why do they or their parents choose to enroll in competing activities in the first place? Several studies have tried to glance at deeper aspects underlying these general causes by focusing on motivation, self-concept, social environment, parental support and parenting style.

## Motives And Motivation

Studies have found that premature attrition can be retrospectively linked to the motives prompting students to begin lessons. It is not simply the absence of motivation but rather the presence of the "wrong" type of initial or continuing motivation that may lead to dropout more frequently. Moreover, the presence of diminished motivation may also be responsible for parents and students seeking out other competing activities.

Richard M. Ryan and Edward L. Deci discussed motivation in terms of *level* (how much) and *orientation* (what kind).[25] People who possess intrinsic motivation act for the

pleasure of that action. On the other hand, extrinsic motivation can be seen in those who seek out an external reaction from their behavior. While the level and orientation of motivation changes over time, education researchers have found intrinsic motivation to be favorable and to lead to fewer dropouts.

Specifically in music, a few studies suggest that students who rely on extrinsic motives for initiation and continuation of lessons are more likely to stop. Jennifer A. Fredricks and her colleagues studied a group of 41 adolescents who had earlier been highly committed to sports and the arts. Those who originally participated for extrinsic motives such as the desire to please others, tended to reevaluate their commitment and quit when they reached adolescence.[26] Another 20-month longitudinal case study compared 9 students with different levels of involvement in music lessons. The researchers focused on motives among other variables. Similarly, they found that those who quit tended to have extrinsic reasons for starting lessons (for example, to join friends). Their enjoyment was limited to gaining approval from others, and their continuing motivation was more easily shaken by comments.[27]

## Teacher Characteristics

While the teacher's personal and professional characteristics are not likely to be a defining factor in attrition, it is possible these characteristics may interact with other variables like student personality and parenting style in the decision to stop lessons. Indeed, adults who gave up lessons as children or teenagers often mentioned they quit in part because they "did not get along with the teacher" or because of a bad experience with a teacher who "did not relate well to adolescent girls."[28]

Lauren A. Sosniak and Benjamin S. Bloom, in their groundbreaking 1984 study of 22 outstanding pianists, provided evidence of the importance of specific teacher characteristics at certain instructional stages among other factors that lead to success in their careers. They found that those pianists had generally undergone three stages of instruction with different types of teachers. The first instructional stage, called "play and romance," was a time for stimulation and freedom of exploration. The teacher of this first stage was often a warm and stimulating individual that was not necessarily a high-level performer. The next two stages, "precision and discipline" and "individuality and insight" were guided by teachers who often required a more structured and strict approach, and were accomplished artists themselves.[29]

A more recent large-scale study of 257 students ages 8–18 found additional evidence of the influence of teachers' characteristic on the students' lesson involvement. This study divided students into 5 different groups that ranged from highly competent music students currently taking lessons, to those who had ceased study after 1 year of study. The more successful students rated their first teacher higher in personal dimensions such as friendliness, and rated their current teacher higher in task-oriented professional dimensions such as "pushiness." The researchers concluded it is important to match teacher characteristics to the changing requirements of learners as they reached higher levels of musical expertise. Teachers at early stages needed to concentrate on establishing a relaxed and friendly relationship with their students. At later stages, while the personal dimension was still important, it became increasingly important to gain students' respect for their teachers as performing musicians through an emphasis on the professional dimension.[30]

## Family Socioeconomic Status

Teachers intuitively acknowledge that socioeconomic status can play an important role in student retention. Poorer families sometimes lack the time or resources to support their children in their musical endeavors. Indeed, researchers have found that the family's socioeconomic level accurately predict high school students' retention in school music program, with students with lower socioeconomic level being less likely to re-enroll.[31] Clearly, there is not much teachers can do about the socioeconomic level of their students' families. However, awareness of this factor may help teachers pay extra attention to the

child environment and prevent attrition by having frank conversations with the parents. At the same time, teachers may be able to tap into existing resources, such as the MusicLink Foundation, that offer ways to support and retain this type of students.

## Parental Support And Home Environment

While the influence of teachers on parenting styles is also clearly limited, recognizing parenting patterns can help teachers anticipate problems and address them early. Parental involvement and home attitudes toward music have been shown to have an influence on students' music achievement, motivation and attitude to learn.[32] Research has also found that students whose parents were involved in music and supported their children's musical participation developed better self-concept in music, valued music more and developed higher motivation to participate in musical activities.[33]

Three case studies have focused specifically on parental involvement and its influence on student retention. In a 20-month case study of 9 young students, Stephanie E. Pitts and her colleagues found that, for "continuers," parental involvement was supportive without being interfering. These parents were aware of what their children were doing or should have been doing in their learning. On the other hand, parents of "discontinuers" held low expectations of their children's progress. These parents showed a casual attitude toward monitoring their children ("I'm making dinner, want to play for me?"), which in turn fostered a casual attitude toward practicing and progress in their children. They accepted a minimum level of practicing and thought of music lessons as another school activity that did not involve the whole family.[34]

The second study on parental involvement, conducted by Andrea Creech, found that specific types of parental support and involvement, such as providing a structured home environment for practice, communicating and taking an interest in promoting rapport with the teacher, and remaining an "interested audience," can enhance learning outcomes such as enjoyment, motivation, satisfaction and self-efficacy.[35] While some parents believe it is necessary to understand music and play an instrument to help a child, research shows parents with little or no musical background can enrich home practicing and take responsibility for encouraging their children to gain and maintain good practicing habits.[36] When parents show *behavioral support* by monitoring and participating in home practice, attending lessons and adopting the role of home teacher, children strive in the beginning stages of instrumental studies (9–11 years old). This kind of *behavioral support* in the early stages of musical development sustains children growth in musical competence. For children ages 11–13 who decided to continue music lessons, *cognitive/intellectual support* is needed in the forms of encouragement for persistence and achievement, attending professional concerts with children, listening and discussing music in the home, encouraging participation in extracurricular musical activities and providing musical resources. The last type of support identified by Creech is *personal support*, which is particularly important when children reach musical "mid-life crisis," when young musicians age 13 and older become increasingly susceptible to performance anxiety and the fear of negative judgment. Creech concluded that effective music learning requires parents to be versatile and flexible in the level of responsiveness and control toward their children, moving freely between more and less involvement as required by the learning context.

The third study by Theresa C. Camilli, surveyed 108 young students who had been studying piano for at least 2 years. Like in the study by Creech, parental support was expressed as behavioral support, demonstrated by parents active involvement in school and home activities; cognitive support, demonstrated when parents exposed children to stimulating activities such as attending concerts; and personal support defined as, "knowing about and keeping abreast of what is going on with the child in school and lessons." Behavioral support and personal support correlated positively with longer study: the longer the

students had been taking lessons, the higher the level of these types of parental support. Parental demandingness and cognitive support, on the other hand, were negatively correlated to months of study. The researcher concluded that, in the case of students who continue with lessons for an extended period of time (at least 2 years), parental demandingness and cognitive support tend to diminish as the number of months increase, while personal and behavioral support tend increase. While this study did not directly investigate factors for dropout (all participants were currently enrolled in piano), its conclusion may help uncover some of the parental "keys" to continued involvement: some types of parental support must increase, while parental demandingness must decrease as the student accumulate years of study.[37]

## Self-Efficacy And Self-perception

Studies have found that students who posses a low sense of self-efficacy or have low self-perception and self-esteem are more prone to quit. Self-efficacy is defined as, "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances;"[38] in other words, the student's belief that he or she is competent enough to succeed at a task, in this case, learning to play. A large survey of adults' perceptions of music study found that participants reported stopping lessons because of a perceived lack of skill.[39] Another study of 376 students found that discontinuers were less confident in their practice and lower in self-efficacy than continuers.[40] A smaller qualitative study of highly committed students also found that feelings of competence were factors in continuing participation, while self-perceived lack of skill led to loss of interest and discontinuation.[41]

Successful mastery experiences and past achievements are two of the ways in which students form their sense of self-efficacy. Efficient, self-regulated practicing is, therefore, an important way to strengthen self-efficacy, as it is likely to lead to successful learning experiences.[42]

## Practicing And Achievement

It is logical that students who display poor practicing habits or lack the motivation to practice would be prone to drop out. Researchers have focused on practicing and practicing habits as predictors of lesson discontinuance.

In a 3-year longitudinal study of 67 children taking piano lessons, Eugenia Costa-Giomi found that the 24 dropouts missed more lessons, and practiced and achieved less in the first 6 weeks than the other children, according to their teachers' reports. Otherwise they did not differ from the other children in cognitive and musical ability, motor proficiency, self-esteem and demographics.[43] Another 20-month longitudinal case study of 9 children found that the participants who quit exhibited minimum amounts of practice, negligible use of practice strategies and little understanding of the potential usefulness of practice. Those students often depended on others to correct their mistakes, showed little self-regulation and had a casual attitude toward lack of progress. Those who continued, interestingly, were not "perfect practicers" either; their commitment to practicing varied during the 20-month period. But in general continuers did show a stronger commitment to practicing, higher levels of reflection and self-evaluation during practice, more awareness of their progress, and better understanding of the purpose and importance of practice than the others.[44]

While there is evidence that practicing habits are related to continuation or discontinuation of lessons, it is unclear if low practicing motivation and poor habits are causes of dropout over time or if they are, in fact, byproducts of other factors that also lead to quitting. It is important to keep in mind, however, that good practicing strategies and habits usually lead to success and achievement, which in turn, may strengthen the student's desire to continue learning.

## Research-based Recommendations For Teachers

The studies above show that the phenomenon of lesson dropout is affected by a complex network of variables. While at

the "surface level" students cite lack of fun and enjoyment, lack of time and the presence of competing activities as main causes for attrition, research has uncovered deeper factors. Some of these factors are rooted within the personal dimension of the learner, such as the type of motivation that prompted the student to initiate and continue to learn an instrument, the value placed on music learning, the student's self-perception of competence and attitudes toward practicing. Other factors are external to the student, such as the socioeconomic level of the family, parental attitudes and personal histories with music, parental styles and support, teacher's characteristics and how well they match the needs of the student. The complex interplay of these factors is crucial in determining whether a student quits or continues in lessons.

The following recommendations, based on the studies we reviewed above, may help teachers prevent the dropout of some of their most vulnerable students.

- Involve the student in the selection of materials and repertoire, and more importantly, the goals of the lessons. It is important to find "middle ground" between what a student finds fun and the teacher's goals. Teachers should strive to include enjoyment as one of the goals of their learning activities, especially in early stages of music study.
- Become aware of the initial and continuing motivation of the students taking lessons. Extensive reliance on external motives such as pleasing friends or parents, or obtaining tangible rewards, may lead students to drop out sooner.
- Become aware of the family and home environment. Involve parents in the lessons. Parents and their attitudes are key to the lessons success. Maintain open communication with parents and suggest different ways of getting involved. While a certain level of parental demandingness is important, this must decrease as the student matures. Suggest other types of parental support, such as behavioral support (becoming actively involved in studio activities like recitals and creating a structured home environment for practicing), and personal support (knowing "what is going on" in lessons and being aware of their children's progress and challenges).
- Teach students how to practice effectively and how to monitor and evaluate their own progress. Become familiar with useful practice resources such as *The Practice Revolution* by Philip Johnston,[45] *The Piano Student's Guide to Effective Practicing* and other books by Nancy O'Neill Breth.[46]
- Be aware of students who don't make progress during the beginning two months of lessons, as research shows they are prone to drop out. Find out what is causing this lack of progress: parents, home environment, learning disability, materials, lack of time and the like. If the lack of progress is caused by your choice of materials, be sure to involve the student in this choice. Teachers may also want to consider including different types of musical activities in the lesson such as improvisation, harmonization from lead sheet and composition. Resources to explore these activities include the series *Pattern Play* and *Chord Play* by Akiko and Forrest Kenney,[47] and *American Popular Piano* by Christopher Norton.[48]
- Provide frequent successful mastery experiences from early on, as they lead to self-confidence and self-efficacy. (Mastery activities are activities when the student demonstrates mastery and experiences success). Some examples may include recitals, festivals and group activities, as well as daily experiences during the lesson. In this regard, teachers can learn from sports. Many students and their families spend a great deal of time attending practice multiple times per week. Participants can see the fruits of their labor in dozens of games throughout a semester. Providing more opportunities to connect the step-by-step processes of weekly practice into the "big picture" may enhance self-efficacy.

- Diagnose students' readiness carefully when choosing repertoire. Teachers must be careful to assign pieces that are not beyond the student's capabilities. Balancing skills and challenges by choosing appropriate materials will translate into more frequent mastery experiences for the student, thus enhancing a sense of self-efficacy. Resources like Jane Magrath's *The Pianist's Guide to Standard Teaching and Performance Repertoire*[49] are invaluable at the time of making appropriate repertoire decision.
- Be aware of your own teaching styles and of your students' personalities and needs. Research has shown that the first teacher must focus on creating a warm and fun environment for students to thrive. It is important to create personal rapport and friendliness with beginning students. Advancing students, on the other hand, need more structure and challenges.
- Adapt to changes over time and periodically re-evaluate your approach. While students grow older, their attitudes and motivations change. No two students are the same, but even the same student can exhibit very different qualities from those they showed in the past. Parents and family dynamics change as well. In this regard, teachers can learn a great deal from the business world. Seek feedback from your clients, whether via a survey, a casual e-mail, or an in-person conversation. Find out what your students and their families prefer and adjust your approach to meet them where they are.
- Keep in mind the ideal parent-teacher-pupil interaction. As shown in the Creech study, the ideal balance is where parents show high support in all three areas of parental support (behavioral, cognitive, personal) and address their ambition with sensitivity and responsiveness in relationship to teacher and student.

At the same time, it is important to realize there will always be a certain level of attrition in lessons. Attrition is a complex phenomenon. It is only natural that some students try different activities until they find something they really love. Sometimes bitterness, resentment or false blame can accompany a student quitting. Understanding the many different factors affecting attrition may help teachers prevent it, or at least react constructively and positively when it happens.

## Notes

1. Daniel V. Steinel. *Data on music education: A national review of statistics describing education in music and the other arts*, (Reston, VA: Music Educators National Conference, 1984).

2. Music Teachers National Association Foundation, *National survey of independent music teacher income and lesson fees* (Rockville, MD: Association Research, Inc., 1990).

3. Robert A. Duke, Patricia J. Flowers, and David E. Wolfe, "Children who study piano with excellent teachers in the United States," *Bulletin of the Council for Research in Music Education* 132 (1997); James S. Catterall, J. S, *The arts and achievement in at-risk youth* (Washington D.C.: National Endowment for the Arts, 2012); Louise Frakes, "Differences in Music Achievement, Academic Achievement, and Attitude among Participants, Dropouts, and Nonparticipants in Secondary School Music," (PhD dissertation, University of Iowa, 1985); Peter J. Jutras, "The benefits of adult piano study as self-reported by selected adult piano students," *Journal of Research in Music Education* 54, no. 2 (2006); etc.

4. Jutras, "Benefits of adult piano study"; Thelma L. Cooper, "Adults' perceptions of piano study: Achievements and experiences," *Journal of Research in Music Education* 49 no. 2 (2001)

5. Duke and others, "Children who study piano with excellent teachers."

6. Catterall, *The arts and achievement in at-risk youth.*

7. Kenneth Elpus, "Is it the music or is it selection bias? A nationwide analysis of music and non-music students' SAT scores." *Journal of Research in Music Education* 61, no. 2 (2013).

8. Susan Hallam, "The predictors of achievement and dropout in Instrumental Tuition," *Psychology of Music* 26 (1998).

9. Sidney J. Lawrence, and Nadia Dachinger, "Factors relating to carryover of music training into adult life," *Journal of Research in Music Education* 15, no. 1 (1967).

10. Edith I. C. Dyal, "An examination of factors which associate with a successful outcome in piano lessons," (PhD dissertation, Teachers College, Columbia University, 1991).

11. Nick Rabkin and E. C. Hedberg, *Arts education in America: What the declines mean for arts participation* (Washington, D.C.: National Endowment for the Arts, 2011).

12. Anthony J. Martignetti, "Causes of elementary instrumental music dropouts," *Journal of Research in Music Education* 13, no. 3 (1965).

13. Martignetti, "Causes of elementary instrumental music dropouts."

14. Rachel M. Gamin, "Teacher perceptions regarding attrition in beginning instrumental music classes during the first year of study," *Contributions to Music Education* 32, no. 2 (2005); Martignetti, "Causes of elementary instrumental music dropouts."

15. Martignetti, "Causes of elementary instrumental music dropouts"; Chi-hung C. Ng and Kay Hartwig, "Teachers' perceptions of declining participation in school music," *Research Studies in Music Education* 33, no. 2 (2011).

16. Ng and Hartwig, "Teachers' perceptions of declining participation in school music."

17. Martignetti, "Causes of elementary instrumental music dropouts."

18. Edward P. Asmus Jr., "Student Beliefs About the Causes of Success and Failure in Music: A Study of Achievement Motivation," *Journal of Research in Music Education* 34, no. 4 (1986); Brent A. Sandene, "An investigation of variables related to student motivation in instrumental music" (PhD dissertation, University of Michigan, 1997).

19. Jessica S. Briggs, "Reasons for initial and continued enrollment in private piano lessons as self-reported by children in northern Indiana and northern Ohio." (DA dissertation, Ball State University, 2010).

20. Mary J. Brown, "Student attitude toward instrumental music education during the first year of instruction." (PhD dissertation, The Ohio State University, 1996).

21. Kenneth Williams, "Attrition in applied music study: Three retrospective case studies," *Update: Applications Of Research In Music Education* 21, no. 1 (2002).

22. Cooper, "Adults' perceptions of piano study: Achievements and experiences."

23. A. Salguero and others, "Identification of dropout reasons in young competitive swimmers," *Journal of Sports Medicine and Physical Fitness* 43, no. 4 (2003).

24. Suzannah M. Armentrout and Cindra S. Kamphoff, "Organizational barriers and factors that contribute to youth hockey attrition," *Journal of Sport Behavior* 34, no. 2 (2011).

25. Richard M. Ryan and Edward L. Deci "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions." *Contemporary Educational Psychology* 25 (2000): 54–67.

26. Jennifer A. Fredricks and others, "A qualitative exploration of adolescents' commitment to athletics and the arts." *Journal of Adolescent Research* 17, no. 1 (2002).

27. Stephanie E. Pitts and others, "Models of success and failure in instrumental learning: Case studies of young players in the first 20 months of learning," *Bulletin of the Council for Research in Music Education* 146 (2000).

28. Williams, "Attrition in applied music study: Three retrospective case studies."

29. Lauren A. Sosniak, "Learning to be a concert pianist," in *Developing talent in young people*, ed. Benjamin S. Bloom (New York: Ballantine, 1984).

30. Jane W. Davidson and others, "Characteristics of music teachers and the progress of young instrumentalists," *Journal of Research in Music Education* 46, no. 1 (1998).

31. Barry Corenblum and Eric Marshall, "The band played on: Predicting students' intentions to continue studying music," *Journal of Research in Music Education* 46, no. 1 (1998).

32. Duke and others, "Children who study piano;" Manny Brand, "Relationship between home musical environment and selected musical attributes of second-grade children," *Journal of Research in Music Education* 34, no. 2 (1986); John P. Brokaw, "The extent to which parental supervision and other selected

factors are related to achievement of musical and technical-physical characteristics by beginning instrumental music students,"(PhD dissertation, University of Michigan, 1982); Sosniak, "Learning to be a concert pianist;" John A. Sloboda and Michael J. A. Howe, "Biographical precursors of musical excellence: An interview study," *Psychology of Music* 19, no. 1 (1991); etc.

33. Veronica O. Sichivitsa, "The influences of parents, teachers, peers and other factors on students' motivation in music," *Research Studies in Music Education* 29, no. 1 (2007).

34. Stephanie E. Pitts and others, "Models of success and failure."

35. Andrea Creech, "Learning a musical instrument: The case for parental support," *Music Education Research* 12, no. 1 (2010).

36. John A. Sloboda and Michael J. A. Howe, "Biographical precursors of musical excellence: an interview study," *Psychology of Music* 19, no. 1 (1991), as cited in Creech, "Learning a musical instrument."

37. Theresa C. Camilli, "Parental and personality factors that predict students' length of piano study," (PhD dissertation, University of Oklahoma, 2010).

38. Albert Bandura, *Social foundations of thought and action: A social cognitive theory*, (Englewood Cliffs, NJ: Prentice Hall, 1986), 391.

39. Cooper, "Adults' perceptions of piano study."

40. Jennifer M. StGeorge, "The relationship of practice to continued participation in musical instrument learning," *Australian Association for Research in Music Education: proceedings of the XXVIIIth annual conference* (2006).

41. Fredricks and others., "A qualitative exploration of adolescents' commitment to athletics and the arts."

42. Gary McPherson and John McCormick, "Self-efficacy and music performance," *Psychology of music* 34 (2006).

43. Eugenia Costa-Giomi, "'I do not want to study piano!' Early predictors of student dropout behavior," *Bulletin of the Council for Research in Music Education* 161/162 (2004).

44. Stephanie E. Pitts and others, "Models of success and failure."

45. Philip Johnston, *The practice revolution: getting great results from the six days between lessons* (Pearce, Australia: PracticeSpot Press, 2007).

46. Nancy O'Neill Breth, *The Piano Student's Guide to Effective Practicing* (Milwaukee: Hal Leonard, 2004).

47. Forrest Kinney and Akiko Kinney, *Pattern Play: Inspiring Creativity at the Piano, volumes 1 to 5* (Toronto: Frederick Harris, 2010); Forrest Kinney, *Chord Play: the Art of Arranging at the Piano, volumes 1 to 5* (Toronto: Frederick Harris, 2012).

48. Christopher Norton and Scott McBride Smith (ed.), *American Popular Piano, volumes 1 to 5* (Stratford, ON: Novus Via, 2006).

49. Jane Magrath, *The Pianist's Guide to Standard Teaching and Performance Literature*, (Van Nuys: Alfred, 1995).

**Bibliography**

Armentrout, Suzannah. M., and Cindra S. Kamphoff, C. S. "Organizational barriers and factors that contribute to youth hockey attrition." *Journal of Sport Behavior* 34, no. 2 (2011): 121–36.

Asmus Jr., Edward P. "Student Beliefs About the Causes of Success and Failure in Music: A Study of Achievement Motivation," *Journal of Research in Music Education* 34, no. 4 (1986): 262–278.

Bandura, Albert. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall, 1986.

Brand, Manny. "Relationship between home musical environment and selected musical attributes of second-grade children." *Journal of Research in Music Education* 34, no. 2 (1986): 111–120.

Briggs, Jessica S. "Reasons for initial and continued enrollment in private piano lessons as self-reported by children in northern Indiana and northern Ohio." Doctoral dissertation, Ball State University, 2010.

Brokaw, John P. "The extent to which parental supervision and other selected factors are related to achievement of musical and technical-physical characteristics by beginning instrumental music students." PhD dissertation, University of Michigan, 1982.

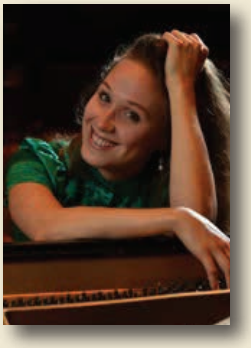
Brown, Mary J. "Student attitude toward instrumental music education during the

first year of instruction." PhD dissertation, The Ohio State University, 1996.
Camilli, Theresa C. "Parental and personality factors that predict students' length of piano study." PhD dissertation, University of Oklahoma, 2010.
Catterall, James S. *The arts and achievement in at-risk youth*. Washington, D.C.: National Endowment for the Arts, 2012.
Cooper, Thelma L. "Adults' perceptions of piano study: Achievements and experiences." *Journal of Research in Music Education* 49, no. 2 (2001): 156–68.
Corenblum, Barry, and Eric Marshall. "The band played on: Predicting students' intentions to continue studying music." *Journal of Research in Music Education* 46, no. 1 (1998): 128–140.
Costa-Giomi, Eugenia. "'I do not want to study piano!' Early predictors of student dropout behavior." *Bulletin of the Council for Research in Music Education* 161/162 (2004): 57–64.
Creech, Andrea. "Learning a musical instrument: The case for parental support." *Music Education Research* 12, no. 1 (2010): 13–32.
Davidson, Jane W., Derek G. Moore, John A. Sloboda, and Michael J. A. "Characteristics of music teachers and the progress of young instrumentalists." *Journal of Research in Music Education* 46, no. 1 (1998): 141–60.
Dyal, Edith I. C. "An examination of factors which associate with a successful outcome in piano lessons." PhD dissertation, Teachers College Columbia University, 1991.
Duke, Robert A., Patricia J. Flowers, and David E. Wolfe (1997). "Children who study piano with excellent teachers in the United States." *Bulletin of the Council for Research in Music Education* 132 (1997): 51–84.
Elpus, Kenneth. "Is it the music or is it selection bias? A nationwide analysis of music and non-music students' SAT scores." *Journal of Research in Music Education* 61, no. 2 (2013): 175–194.
Frakes, Louise. "Differences in Music Achievement, Academic Achievement, and Attitude among Participants, Dropouts, and Nonparticipants in Secondary School Music." PhD dissertation, University of Iowa, 1985.
Gamin, Rachel M. "Teacher perceptions regarding attrition in beginning instrumental music classes during the first year of study," *Contributions to Music Education* 32, no. 2 (2005): 43–64.
Hallam, Susan. "The predictors of achievement and dropout in instrumental tuition." *Psychology of Music* 26 (1998): 116–32.
Fredricks, Jennifer A., Corinne J. Alfeld-Liro, Ludmila Z. Hruda, Jacquelynne S. Eccles, Helen Patrick, and Allison M. Ryan. "A qualitative exploration of adolescents' commitment to athletics and the arts." *Journal of Adolescent Research* 17, no. 1 (2002): 68–97.
Johnston. Philip. *The practice revolution: getting great results from the six days between lessons*. Pearce, Australia: PracticeSpot Press, 2007.
Jutras, Peter J. "The benefits of adult piano study as self-reported by selected adult piano students." *Journal of Research in Music Education* 54, no. 2 (2006): 97–110.
Kinney, Forrest, and Akiko Kinney. *Pattern Play: Inspiring Creativity at the Piano, volumes 1 to 5*. Toronto: Frederick Harris, 2010.
Kinney, Forrest. *Chord Play: the Art of Arranging at the Piano, volumes 1 to 5*. Toronto: Frederick Harris, 2012.
Lawrence, Sidney J., and Nadia Dachinger. "Factors relating to carryover of music training into adult life." *Journal of Research in Music Education* 15, no. 1 (1967): 23–31.
Magrath, Jane. *The Pianist's Guide to Standard Teaching and Performance Literature*. Van Nuys: Alfred, 1995.
Martignetti, Anthony J. "Causes of elementary instrumental music dropouts." *Journal of Research in Music Education* 13, no. 3 (1965): 177–83.
McPherson, Gary, and John McCormick. "Self-efficacy and music performance." *Psychology of music* 34 (2006): 322–36.
Music Teachers National Association Foundation. *National survey of independent music teacher income and lesson fees*. Rockville, MD: Association Research, Inc., 1990.
Norton, Christopher, and Scott McBride Smith (ed.). *American Popular Piano, volumes 1 to 5*. Stratford, ON: Novus Via, 2006.
O'Neill Breth, Nancy. *The Piano Student's Guide to Effective Practicing*. Milwaukee: Hal Leonard, 2004.

Ng, Chi-hung C., and Kay Hartwig, "Teachers' perceptions of declining participation in school music." *Research Studies in Music Education* 33, no. 2 (2011): 123–42.

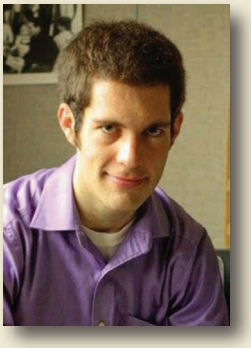
***Alejandro M. Cremaschi, NCTM**, is a frequent presenter in conferences, and has recorded for the label Meridian. He teaches piano and pedagogy at the University of Colorado Boulder. He has served as president of the Colorado Music Teachers Association.*

***Ksenia Ilinykh** has been applauded for "first class music making, complete control." Winner of many national and international competitions, Ilinykh is a passionate supporter of children and youth education.*



***Elizabeth Leger** holds a BM degree in piano from Ithaca. She is now working toward her MM degree at the University of Colorado Boulder. As an active member of MTNA, she has organized many events for students and local communities.*

***Nathan Smith** received his BM degree in piano performance from Queens College. He is currently working toward his MM degree at the University of Colorado Boulder. Smith is involved in the development of software and technology for piano study.*



Pitts, Stephanie E., Jane W. Davidson, and Gary E. McPherson. "Models of success and failure in instrumental learning: Case studies of young players in the first 20 months of learning." *Bulletin of the Council for Research in Music Education* 146 (2000): 51–69.

Rabkin, Nick, and E. C. Hedberg. *Arts education in America: What the declines mean for arts participation*. Washington, D.C.: National Endowment for the Arts, 2011.

Ryan, Richard M., and Edward L. Deci. "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions." *Contemporary Educational Psychology* 25 (2000): 54–67.

Salguero, Alfonso, Rene Gonzalez-Boto, Concepcion Tuero, and Sara Marquez. "Identification of dropout reasons in young competitive swimmers." *Journal of Sports Medicine and Physical Fitness* 43, no. 4 (2003): 530–4.

Sandene, Brent A. "An investigation of variables related to student motivation in instrumental music." Ph.D. dissertation, University of Michigan, 1997.

Sichivitsa, Veronica O. "The influences of parents, teachers, peers and other factors on students' motivation in music." *Research Studies in Music Education* 29, no. 1 (2007): 55–68.

Sloboda, John A., and Michael J. A. Howe. "Biographical precursors of musical excellence: An interview study." *Psychology of Music* 19, no. 1 (1991): 3–21.

Sosniak, Lauren A. "Learning to be a concert pianist." In *Developing talent in young people*, edited by Benjamin S. Bloom. New York: Ballantine, 1984.

Steinel, Daniel V. *Data on music education: A national review of statistics describing education in music and the other arts*. Reston, VA: Music Educators National Conference, 1984.

StGeorge, Jennifer M. A. (2006). "The relationship of practice to continued participation in musical instrument learning." *Australian Association for Research in Music Education: proceedings of the XXVIIIth annual conference*.

Williams, Kenneth. "Attrition in applied music study: Three retrospective case studies." *Update: Applications Of Research In Music Education* 21, no. 1 (2002).