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Self-determination theory: An approach to motivation in music education

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Abstract

This article provides a conceptual overview of a self-determination theory approach to motivation in music education. Research on motivation in music learning is active and has influenced the field considerably, but it remains theoretically patchy, with a vast array of theoretical perspectives that are relatively disconnected. Reflecting motivation research more generally, music education still lacks a parsimonious, unified theoretical approach to motivation. Self-determination theory offers a way to address this issue, because it is a broad theory of motivation that examines the nature and sources of motivational quality. This article describes two key components of self-determination theory. First, the tendency towards personal growth and a more unified sense of self is supported through the fulfilment of the basic psychological needs of competence, relatedness, and autonomy. Second, behaviour is more enjoyable and contributes more to personal wellbeing when motivation is internalized and more closely aligned with the self. These two features of self-determination theory are related, such that motivation is internalized to the extent that basic psychological needs are fulfilled. These processes are supported by recent self-determination theory research in music education. Previous research on motivation from other theoretical perspectives also lends support to the self-determination theory approach. The approach therefore provides a means of theoretically unifying previous research. An integrated model is presented as the basis for future research on motivation for music learning in the context of psychological wellbeing more broadly.

Keywords

autonomy, motivation, music education, psychological needs, self-determination theory

Motivation is a key area of investigation for researchers and practitioners in music education. Understanding motivation is vital for addressing questions of how and why people take up learning a musical instrument, how they persist through the challenges of learning and practice, and how they become successful or why they quit. Broadly defined as "the process by which goal-directed activity is instigated or sustained" (Schunk, Meece, & Pintrich, 2013), motivation is a psychological construct with many theoretical traditions and perspectives. Music education

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research has adopted some of these perspectives, including expectancy-value theory (Lowe, 2011; McPherson & McCormick, 1999; Wigfield et al., 1997), self-efficacy (Hendricks, 2013; McPherson & McCormick, 2006; Nielsen, 2004), attribution theory (Asmus, 1986a, 1986b; Legette, 1998), and identity development (Davidson & Burland, 2006; Evans & McPherson, 2014, in press; Hargreaves, Macdonald, & Miell, 2012; Hargreaves & Marshall, 2003), among many others. Indeed, one issue that is faced by music education is that it is yet to converge in agreement on a single theoretical perspective. Reviews in the area (Austin, Renwick, & McPherson, 2006; Hallam, 2002, 2011; Martin, 2008; O'Neill & McPherson, 2002; Renwick & Reeve, 2012) have examined aspects of these vast approaches, but the need remains for a robust integrative approach that synthesizes these perspectives and advances toward a more unified theoretical explanation for motivation in this domain.

Researchers in music education have recently turned to *self-determination theory* (SDT) as a way to address this issue. SDT is a relatively comprehensive theory of motivation, focused not only on the role of particular social, cognitive, or emotional factors, but more broadly on the kinds of behaviours humans exhibit when they interact with social environments. SDT is a metatheory—an umbrella approach consisting of a number of minitheories (Vansteenkiste, Niemiec, & Soenens, 2010). The metatheoretical approach is based on the concept of the *organismic dialectic*, the term used to describe the innate human propensity toward psychological health and wellbeing, and the tendency for people to develop and pursue an identity that is unified with their sense of self (Ryan & Deci, 2002). SDT is concerned not only with the amount of motivation that a person has for a particular behaviour, but also the quality of that motivation, which emanates from the extent to which behaviour is aligned with the sense of self. It has a substantial body of empirical evidence in other domains of human behaviours such as work (Baard, Deci, & Ryan, 2004; Gagné & Deci, 2005), sports and physical education (Standage, Gillison, Ntoumanis, & Treasure, 2012), health care (Ng et al., 2012; Ryan, Patrick, Deci, & Williams, 2008), social relationships (La Guardia & Patrick, 2008), and schooling (Niemiec & Ryan, 2009; Reeve, 2002).

SDT is an advantageous perspective for music education researchers in several ways. First, it is a framework that has considerable breadth and can explain a wide range of behaviour and therefore a framework that may explain the breadth of behaviours and factors of interest in studying motivation for music learning. Because of this breadth, SDT may provide some unification for previous research in music education. For example, the self-efficacy construct has been studied in music education research (Hendricks, 2013; McCormick & McPherson, 2006). Within an SDT framework this may be considered as a component of *competence*, which is conceptualized within SDT as a psychological need. This, along with other studies on constructs related to competence, provides support for the effects of fulfilling the need for competence in music. Second, persistence and dropout has been an important subject of research in music education (Hallam, 1998). Persistence and dropout have been examined using SDT in settings where self-initiated and self-regulated behaviour is also required, such as in school contexts (Vallerand, Fortier, & Guay, 1997), physical education contexts (Ntoumanis, 2005), and personal health management (Williams, McGregor, Zeldman, Freedman, & Deci, 2004). Third, SDT places a strong emphasis on the quality of motivation and behaviour, rather than merely the quantity. Quality of music practice behaviour is particularly important for developing musicians, for example, in the extent to which practice needs to be deliberate and effortful (Ericsson, Krampe, & Tesch-Romer, 1993), and the quality of practice strategies used (McPherson, 2005). Fourth, SDT research has been applied extensively in other domains, providing a foundation for music researchers to translate and capitalize on the yields of published work. These advantages—the conceptual utility of SDT in its theoretical breadth, thematic relevance to issues

of importance for music education researchers, the particular concern with the quality of behaviour, and the ability to capitalize on applied yields in other domains—represent considerable opportunities for advancing music education research.

A conceptual review of SDT in music education does not yet exist in the literature. A conceptual review is important because it advances discussions concerning conceptual clarity. This has become an important issue in other areas of motivation research: Elliot and Dweck (2005) advanced a conceptual clarity argument in reorienting the parochial "achievement motivation" terminology towards "competence motivation"; researchers investigating self-efficacy have, on occasion, interpreted the construct incorrectly and inadvertently compromised the construct validity of their scales (see Bandura, 2006; Klassen, Tze, Betts, & Gordon, 2011); and concepts of metacognition, self-regulation, and self-regulated learning have been conceptually reviewed as ways to advance a theoretical case that they are subtypes of the same general phenomenon (Kaplan, 2008; Loyens, Magda, & Rikers, 2008). Thus, the development of debates around conceptual issues is critical for rigorous debate and discussion of research issues, as well as to provide a basis for empirical researchers to apply theoretical frameworks. Examples of such frameworks in music education have been valuable in the areas of parental influences in children's music learning (McPherson, 2009), the interactions between parents, teachers, and students (Creech & Hallam, 2003), and, indeed, in musical motivation (Hallam, 2002). Such contributions highlight researchers' underlying search for ever more unified and theoretically sophisticated explanations for important issues of interest.

The aim of this article is to provide an SDT-based conceptual overview of motivation in music learning. This overview examines the limited amount of research that has been carried out to date in SDT in music learning and identifies areas for future research. Two key concepts underlie SDT research. The first is the concept of *basic psychological needs*, the nutriments that form fundamental motives for psychological growth and wellbeing. The second is *internalization*, the process by which externally regulated behaviours are aligned with the self. Research on these two key areas are reviewed throughout the article followed by an integrated theoretical approach provided as a potential basis for future research.

Examples throughout this article are given in relation to instrumental learning and school music classrooms in the Western, mostly classical tradition. While acknowledging that these contexts may seem somewhat parochial, instrumental learning remains one of the most common and popular ways in which people all over the world engage in learning a musical instrument, and, particularly in Western contexts, is the subject of a large body of research including the studies cited above and throughout this article. Notwithstanding these limitations, SDT is a broad, psychological theory that seeks to explain human behaviour across cultural and political boundaries. So while the emphasis of the illustrative examples in this article is on Western instrumental and classroom motivation, the theoretical mechanisms described in this article are likely to extend to music education settings outside of these contexts.

Basic psychological needs

A fundamental feature of SDT is basic psychological needs theory. This theory contends that humans have an innate set of psychological needs. Through interactions with the social environment, these needs are either fulfilled, leading to growth and psychological wellbeing, or they are thwarted, leading to psychological illbeing (Ryan & Deci, 2002). SDT considers the needs to be innate and universal—that is, a fundamental aspect of the human psyche—rather than acquired from the social or cultural environment. Three needs are posited: competence, relatedness, and autonomy. While other needs can be identified, these can usually be explained

conceptually either as a subset or as combinations of the three needs (Ryan & Deci, 2000a; Sheldon, Elliot, Kim, & Kasser, 2001).

Competence

The need for *competence* relates to a desire to be effective in one's skills, abilities, and interactions in the social environment (Elliot, McGregor, & Thrash, 2002). The need for competence grows out of effectance motivation, which is first evident in infants when they experience the joy of effecting change in their environments (White, 1959). It evolved in humans to provide the adaptive advantage of being able to develop skills for negotiating and manipulating their environments in order to avoid danger, hunt for and locate food, and find shelter (Elliot et al., 2002).

The need for competence in music learning has only been examined indirectly, rather than specifically with an SDT focus. The underlying result appears to be in line with the competence construct: That is, that experiences of competence and achievement have a motivating influence, while experiences of excessive difficulty and inability thwart the competence need, leading to feelings of ineffectance. In a voluntary activity such as music learning, people are likely to give up when their need for competence is not fulfilled or if it is thwarted.

Much work surrounds the idea of beliefs about abilities, which have been a focus of many researchers and contentious debate in recent decades. Some researchers argue for a genetic, innate basis for musical abilities (Gagné, 2009) while others argue against the existence of innate musical talents, and look to the social environment for explanations of high abilities (Howe, Davidson, & Sloboda, 1998). Regardless of whether musical abilities are innate and immutable, it is *beliefs* about whether they are innate or immutable that seem to matter. Those who believe that their ability is fixed are likely to avoid challenging situations and will not pursue learning, particularly if their ability is low, while those who believe their ability can be improved through effort (a so-called "mastery orientation") are more likely to pursue challenges, attribute failures to effort rather than fixed ability, and persist in the face of difficulty (Dweck, 2000; Dweck & Leggett, 1988; Elliot & McGregor, 2001). Such findings have been made with tertiary music students (Smith, 2005) who demonstrated an ego-involvement rather than mastery orientation to tasks if they had fixed views of musical ability. O'Neill and Sloboda (O'Neill, 2011; O'Neill & Sloboda, 1997) found that children with a mastery orientation made better progress than those with a fixed orientation. Further, their examination of practice revealed that those with a fixed orientation were doing twice as much practice as those with a mastery orientation to achieve the same level of performance, suggesting that they tended to do less effective and efficient practice. Matthews and Kitsantas (2013) reported that collegiate instrumentalists in an ensemble reported higher collective efficacy and better performance if their conductor had a mastery orientation than if they had a performance orientation.

Relatedness

People depend on the formation of close bonds with others in complex social networks. Environments that are supportive of *relatedness* are those that provide warmth and the ability to connect with others in mutually beneficial ways. Relatedness is not a motive for an outcome to be attained from or with others (e.g., sex, friendship); rather, it is the need to feel close and connected with feelings of belongingness and acceptance by others (Baumeister & Leary, 1995). Music learning tends to occur in the context of many social relationships, including

with teachers, parents, other family members, and various groups of peers. Therefore, the need for relatedness within the context of music education may be particularly salient.

One aspect of relatedness that has been examined in music learning is relationships between students and parents. In a study by Davidson, Howe, Moore, and Sloboda (1996) of a sample of 257 students of a range of abilities, the groups with the highest levels of achievement also had the highest levels of parental involvement and support in lessons. They also found an interaction between parental involvement and achievement level, where those who achieved more highly had parents who gradually withdrew their support as the students gained independence, while those who achieved less had parents whose involvement increased, perhaps as a "last-ditch" effort to help the child have a meaningful experience with learning their instrument before they gave up. A similar interaction finding was made by Simpkins, Vest, and Becnel (2010) who examined parental involvement in relation to musical self-concept. Zdzinski (1996) also examined the degree and frequency of parental involvement in 406 children's learning and found modest correlations between involvement and a range of music achievement, motivation, and performance tests, of which the strongest associations were with the motivation outcomes. McPherson and Davidson (2002) also examined mothers' involvement in their children's practice in the first year of learning a musical instrument. In their study of 157 children, they found that mothers could predict whether their child would need support to practise, and those who thought they would need more reminders to practise had children who practised less and were more likely to cease learning within one year. In each of these studies, parental involvement may have impacted the children's learning through the fulfilment of their need for relatedness. Future SDT-based research may further clarify these findings by emphasizing the *quality* of the parental involvement, because SDT makes strong predictions about the effects of involvement that depend on whether the involvement is controlling or autonomy-supportive (Grolnick, 2009; Pomerantz, Moorman, & Litwack, 2007).

Relatedness may also play an important role in relationships with teachers. Research shows dynamic changes in teacher relationships throughout various stages of learning. In a landmark study of over 90 concert pianists, Bloom (1985) found three stages to teacher relationships: in the early years, musicians reported having enjoyable, informal, fun interactions with their teachers. In the middle years, teachers had higher standards and emphasized technical skill development. In the later years, teachers had the highest standards, and both teacher and student forged a relationship dedicated to mastery. Davidson, Moore, Sloboda, and Howe (1998) made similar findings: In the early stages, personal characteristics of teachers (warmth, friendliness) were more important than professional characteristics (technical ability, reputation), but this reversed in the later stages of learning. Creech (2012) categorized descriptions of teacher and student behaviour according to various types of relationships, revealing a range of approaches from those who were highly directive to those who were more responsive. The conclusion that may be reached from these studies is that in the early stages of music learning, the security of a warm, friendly relationship may provide an important backdrop for the later focus on competence and mastery.

Finally, it is worth noting that music itself provides a natural means for social connectedness. Dagaz (2012) used an ethnographic approach to document the way in which a marching band provided the social backdrop in which members perceived a culture of acceptance and trust. This backdrop of trust and acceptance is a critical aspect of relatedness, and without it, the fulfillment of the other needs of competence and autonomy is difficult. Evans, McPherson, and Davidson (2013) noted that while some students felt pressure from their friends for participating in a school band program, which was perceived as being less "cool" than other activities, the band itself provided an environment in which new relationships could be formed.

Interestingly, other students felt that participating in the band in high school socially ostracized them, or thwarted their need for relatedness, and they left the band so that they might be socially accepted elsewhere.

Autonomy

In everyday language, the concept of autonomy shares some conceptual territory with notions of independence, freedom, and self-governance. Within SDT, however, autonomy is defined more precisely. Autonomous behaviour is congruent with the sense of self, and arises with feelings of volition, choice and being the cause of one's behaviour. It is the opposite of controlled behaviour. In teaching, a common misconception of autonomy support is that it is equated with a *laissez-faire*, structure-free form of teaching. In contrast, structure has been shown to be supportive, not aversive, to the fulfilment of autonomy in students (Jang, Reeve, & Deci, 2010).

Music has traditionally been an area in which teaching practices tend not to support autonomy. Classical studio music teaching, for example, tends to be prescriptive, with the teacher deciding upon a set of learning activities for a regular lesson, then assigning a practice agenda for the interim period before the next lesson. The student tends to have little input into the subject of the lessons, with the teacher charting the direction of the student's music learning (Creech, 2012), often including the choice of repertoire. One indication of this comes from a study of studio lessons that uncovered a much higher proportion of time occupied by teacher talk than by student activity (Young, Burwell, & Puckup, 2003). Music teachers, particularly in conservatories, can be demanding, sometimes perfectionistic, and controlling (Syrjala, Saarela, & Lehtonen, 2004). Moreover, the Western classical tradition is one that encourages conformity; creative and innovative interpretations are only acceptable at the highest levels of performance (McPherson & Gabrielsson, 2002). In ensemble settings, the repertoire is almost always selected by an ensemble director. Overall, students tend to have little input, choice, and ownership of their learning. While it may often not be the intention of teachers to set up such a relationship, it is this style of teaching that often emerges (Jørgensen, 2002).

Examining different contexts reveals some exceptions to the generalization that music education settings tend not to be autonomy supportive. de Bézenac and Swindells (2009) contrasted classical music students with non-classical (folk and popular) music students. Non-classical students "reported experiencing *more pleasure in engaging in musical activities* than their classical counterparts" (de Bézenac & Swindells, 2009, p. 4). The researchers also described tendencies of classical music learners to have more controlled external regulation. However, these results are tentative at best because no information is provided regarding the data collection, sample, or procedures for statistical analysis. A similar conclusion was reached by MacIntyre and Potter (2014) who compared guitar students with piano students at university. Guitar students had more willingness to play their instrument and more autonomy than piano students. Again, the researchers attributed this difference to the formal and rigid style of piano teaching compared with the more relaxed and friendly style of guitar teaching. Higher levels of autonomy support in university teaching have also been linked with passion and persistence in students (Bonneville-Roussy, Vallerand, & Bouffard, 2013).

One case study of a young student by Renwick and McPherson (2002) is particularly illustrative of the effects of autonomy support on learning strategies. Clarissa, a 12-year old girl, had been learning to play the clarinet for 3 years in a school band program. She was learning to play a clarinet arrangement of *La Cinquantaine* by Jean-Gabriel Marie. Her teacher mentioned Woody Herman's swing arrangement of the piece, *Golden Wedding*, during a lesson, and Clarissa asked if she could play it. In Clarissa's subsequent practice sessions, she spent more than 12 times longer per note practising *Golden Wedding*. Her practice was also more strategic: Rather than stumbling

aimlessly through the piece as she did with *La Cinquantaine*, she used sophisticated strategies such as humming, repeating bars to correct and contextualize passages, and practising slowly then increasing tempo. This remarkable difference in the amount and effectiveness of her practice was attributed to the choice of repertoire.

An important point to make is that structures are a key element of autonomy support. To illustrate this, SDT researchers have examined non-Western collectivist cultural contexts, where students seem to respond better to highly-structured, teacher-directed classrooms. Even in these environments, students can feel autonomously motivated, because they endorse the value of the class and trust the teacher to guide their learning (Chirkov, 2009; Jang et al., 2010; Jang, Reeve, Ryan, & Kim, 2009). Educators in these contexts can still support autonomy by nurturing students' motivational resources, using non-controlling, informational language, and acknowledging students' feelings and perspectives (Jang et al., 2010).

Supporting psychological needs fulfilment in music

Research conducted specifically with a basic psychological needs approach in music appears to be limited to a small number of studies. Evans et al. (2013) measured psychological needs fulfilment retrospectively for over 100 young adults who had commenced in a primary school band program 10 years earlier, and found that greater psychological needs fulfilment was associated with the time when the participants were highly engaged in music activities in school, and less fulfilment and greater needs thwarting when the participants ceased learning and playing their instrument. Furthermore, their descriptions of why they ceased playing music vividly illustrate the experiences of the students, even though they were not directly asked about psychological needs, as with the student who stated, "I felt like I was forced to play it in the first place and then forced to practise music that was not of my choosing so I felt restricted and oppressed" (Evans et al., 2013).

Evans (2009) also found correlations between basic needs fulfilment and subjective task value in primary school, but not in high school, suggesting the possibility that needs fulfilment in music activities early in life might be strongly associated with the formation of resilient values that remain unchanged regardless of high school experiences. Further research is needed to develop more reliable and valid measures of psychological needs in the music context, and to understand the kinds of experiences that fulfil psychological needs in music learning.

Table 1 outlines various strategies for the fulfilment of basic psychological needs and examples in music pedagogy. Within this table, the overlapping nature of the psychological needs is clear. For example, *acknowledging students' feelings* is listed under autonomy but it may be interpreted as an example of relatedness. Indeed this has been a problem for researchers measuring psychological needs in more general domains (Johnston & Finney, 2010; Sheldon & Hilpert, 2012; Sheldon & Niemiec, 2006) because the high inter-correlations between the items also make for difficult factor analysis. However, this reflects the complex and interrelated nature of the psychological needs themselves. The examples listed in Table 1 are synthesized from various sources (Deci, Ryan, & Williams, 1996; Niemiec & Ryan, 2009; Reeve, 2002; Renwick & Reeve, 2012; Ryan & Deci, 2000a) and are speculative in nature. Further research through observation or intervention is required to examine the consequences of various pedagogical techniques according to the theory.

One final note to make about psychological needs is that they need to be fulfilled in balance. In a study by Sheldon and Niemiec (2006), the effect of balanced psychological needs, where each need was met to a similar degree, outweighed the effect of imbalanced need fulfilment, even when the total amount of need fulfilment across the three needs was greater. It should also

Table 1. Examples of needs-supporting and needs-thwarting behaviour in music teaching.

Needs supporting	Needs thwarting
Competence	
Encourage a growth, rather than a fixed, mindset (Dweck, 2000).	Maintain perfectionistic standards in music lessons.
De-emphasize notions of talent and fixed ability, and emphasize effort.	Compare musical achievement and ability to that of peers.
Praise efforts and strategies (e.g., checking the time signature and tempo before attempting sightreading) rather than outcomes and abilities (e.g., sightreading well, pleasing a crowd).	Emphasize norm-referenced evaluation criteria as the main outcome of music learning (e.g., the Australian Music Examinations Board [AMEB], Trinity College London [TCL]).
Teach practice strategies that will lead to the development of new skills.	Emphasize success in music competitions and eisteddfods as indicators of success in music learning.
Relatedness	
Facilitate interactions with peers (e.g., within a music studio where students may not otherwise interact).	Maintain strict standards.
Be perceptive of how music learning affects the student's role in peer groups.	Withhold affection and pleasantry.
Educate parents on the demands necessary for learning so as to minimize conflict (e.g., about the noise of practice in the home).	Ignore affect and mood of students.
Develop a warm, bidirectional relationship with the student.	Emphasize formal learning activities as the only valuable ones.
Acknowledge that music may be one of many competing activities and that friendships may at times be more important than practice.	Manipulate students through feelings of guilt or shame for not following instructions.
Autonomy	
Provide rationales when providing instructions (e.g., explain the benefits of drilling scales or practising sight-reading).	Pressure students to perform well.
Acknowledge students' feelings (e.g., performance anxiety).	Follow the same lesson plan each lesson.
Provide choice of repertoire and learning activities (as long as there are not so many choices that it is overwhelming and thwarts competence).	Instruct students to do things "because the teacher said so."
Assist students in developing meaningful practice goals (e.g., master a particular section of music).	Exclude students from planning learning activities.
Encourage creative activities such as improvisation and composition.	Emphasize rules and regulations.
	Assign practice tasks without explaining why or how to do them.
	Assign arbitrary practice goals (e.g., practise for 20 minutes)
	Use rewards and punishments to manipulate student behaviour.

be noted that imbalance in the fulfilment of needs can create conflict between each one. For example, consider a student who is obsessed with pursuing musical practice at the expense of maintaining any friendships. In this case, the student's obsessive pursuit of competence is depriving the ability to fulfil the need for relatedness (Bonneville-Roussy et al., 2013).

Intrinsic and extrinsic motivation in music

Research in SDT began with investigations of the relationship between doing something because it is inherently interesting or pleasurable (intrinsic motivation; IM) and doing something for some reason other than the task itself (extrinsic motivation; EM) (Deci & Ryan, 1985b). This distinction has long been a core concept within motivation research for much of the history of psychology. In Deci's (1971) initial work on the subject, experimenters asked participants to solve puzzles that increased gradually in difficulty. They gave one group a monetary reward for each puzzle solved, and another group no such reward. After a set time period, the experimenters told the participants that the experiment had finished, and they left the room, ostensibly to calculate the results while the participant waited. During this free-time period, the no-reward group continued to solve more puzzles than the group that was provided the monetary reward. The extrinsic reward had not increased the participants' total motivation. Rather, it had *undermined* the motivation they would otherwise have had for solving the puzzles. Deci's experiment marked the beginning of a long line of research conducted over subsequent decades on the nature of intrinsic and extrinsic motivations and their effects on intrinsic behaviour (for extensive review and meta-analysis, see Deci, Koestner, & Ryan, 2001; Harackiewicz, Rozek, Hulleman, & Hyde, 2012). The key finding is of an interactive, rather than additive, relationship: EM, particularly in the form of rewards, is likely to undermine, rather than complement, IM (Deci et al., 2001). Similar phenomena extend to other external events, including evaluation (testing or examination), surveillance, competition, and threats of punishment.

External motivators abound in music teaching and learning. Going to lessons, practising, and persisting with the immense learning curve that instrumental music learning presents may lead parents and teachers to use external motivators to encourage practice. External motivators are tempting because of their intuitive appeal—it seems to make sense that adding rewards and incentives to practise would facilitate children's motivation. Indeed, SDT may challenge many music teachers who have long observed the effects of their external motivators, such as gold stars and stickers for practising and for playing well, because they often appear to work in the immediate circumstances. Consider a student in a clarinet lesson who plays a piece well and is rewarded with a gold star. They may respond with positive affect and comply with the teacher's directives at that particular time. But consider also this student's motivation within the music domain more broadly. While the gold star will appear to motivate compliant behaviour in the clarinet lesson, it is unlikely to encourage the student to independently practise and master a piece when the teacher ceases using the gold stars or is no longer present. The gold star has the effect of distracting from the intrinsic value of the task itself. The emphasis becomes on the immediate, short-term moment, at the expense of longer-term learning, persistence, and value, and it prevents the student from internalizing a sense of motivation for music learning. Faulkner, Davidson, and McPherson (2010) observed this effect when they found that some parents in their study of 157 children had used rewards such as monetary allowance or TV-watching time as an incentive to practice. Not one child in their study whose parents had used rewards continued beyond one year of learning or reported playing or learning music as adults.

High-stakes examinations are another form of external motivator. Examinations play a significant role in music teaching and learning, particularly in countries such as the UK and Australia, where systems such as AMEB, TCL and the Associated Board of the Royal Schools of Music (ABRSM) are prevalent. These independent bodies specify a graded set of performance standards plus various additional awards at higher levels and are widely recognized in the countries in which they operate. The examination systems in many cases form the curricular

basis for studio teaching. SDT would normally predict that evaluations such as examinations are external motivators and would thus undermine intrinsic motivation for playing an instrument (Deci, 2009). However, a study of students preparing for AMEB examinations found that their motivation for exam preparation was closer in quality to intrinsic motivation than expected, though intrinsic motivation was still far more predictive of effective practice more than extrinsic motivation (Renwick, 2008). In this case it may have been that students looked to exams as ways to improve mastery of their instrument or repertoire, not as controlling, involuntary events focused on evaluating their ability. While these examination systems are immensely popular, there is a dearth of research on the effects of their structure on motivation and learning. Further work is needed to understand the kinds of conditions in which examinations may provide a scaffolded pathway for students to recognize milestones in their developing abilities and to celebrate their achievements, rather than providing a competitive, pressuring, and evaluative external form of regulation that inhibits student autonomy.

Subtypes of extrinsic motivation

In the development of research on IM and EM, researchers observed robust main effects for external motivators undermining IM, but in many cases, people still experienced IM (Vansteenkiste et al., 2010). At the same time, researchers realized that IM is simply not possible for every imaginable task, and that surely not all behaviours that were not intrinsically motivated were maladaptive. Consider practising scales, which is not inherently an intrinsically enjoyable task. It is difficult to see how students could be intrinsically motivated to play scales—they are more likely to be extrinsically motivated. SDT contends that extrinsic motivation consists of varying types on a continuum. At one end would be students who are relatively externally motivated: They practise because their teacher told them to, because they receive praise from their parents, because of a belief that it is good and right to practise scales for a set amount of time each day, or because of some other external reward. At the other end of the continuum would be students who are relatively internally motivated: They practise because they understand how valuable scales may be for warming up, developing dexterity, practising rhythm, and so on. These students may even internalize their motivation for scales so much that they enjoy them, resembling something like intrinsic motivation.

One of the early experiments in this area (Koestner, Ryan, Bernieri, & Holt, 1984) asked children who were painting to keep their materials (brushes, water, paints) clean while they worked. One group was relatively internally motivated: Experimenters explained that keeping their materials clean is helpful because it avoids mistakes on the painting and spills that would have to be cleaned. The other was relatively externally motivated: Experimenters stated the rules, without any explanation. The more internally motivated children created more creative paintings than those of the more externally motivated children. The authors concluded that they had experienced the explanation as one that supported their motivation, and they endorsed the instruction because they understood its value. The externally motivated children experienced the instruction as controlling and did not internalize its value. The experiment exposed the value of a very simple pedagogical technique: explaining to students the value of a particular task can have a considerable impact on the quality of their motivation and creativity.

Types of motivation

Researchers distinguish four types of extrinsic motivation (Ryan & Connell, 1989; Ryan & Deci, 2000b) ranging from relatively external to relatively internal. Table 2 shows the classic

distinction between intrinsic and extrinsic forms of motivation, as well as the four types of extrinsic motivation elaborated with examples of behaviours in music learning to illustrate the phenomena in the model.

External regulation represents a kind of behaviour that is imposed on an individual by the social environment and generally takes the form of some kind of external reward or threat of punishment. In truly external regulation, there is no involvement of personal identity, personal endorsement of the behaviour, or consideration of personal values. When external rewards and punishments regulate behaviour, the only real response that can occur is either *compliance* or *defiance*. External regulators do not encourage people to maintain behaviour in their absence. External regulators are evident in learning environments in the form of mandated, high-stakes examinations, monitoring, excessive pressure to do well, emphasis on comparisons of ability with peers, and competitions.

Introjected regulation is much like external regulation, though the external regulators are imposed onto the self in such a way that they become self-administered rewards and threats of punishment. Self-control and ego become the major focus of regulation. Pride, guilt, shame, and other emotional and self-worth contingencies are commonly associated with introjected regulation (Deci & Ryan, 2000). For example, students motivated purely by the ego-boosting feelings of pride after a big performance, students who practise simply because they feel they should or ought to practise, and students who feel they have to perform because they would otherwise feel guilty or ashamed, are likely to be experiencing introjected regulation.

Identified regulation represents the first stage on the continuum where behaviours are undertaken because the person identifies the importance and significance of an activity in relation to self. The person endorses and values the activity, feeling as though their behaviour is initiated and sustained by their own self, rather than by something from the environment.

Integrated regulation represents the most internal and self-determined form of extrinsic motivation. It occurs when a person not only identifies the importance of behaviours for goals considered to be close to the sense of self, but assimilates and synthesizes these regulations and goals with other aspects of the self. As such, it strongly resembles intrinsic motivation. Integrated regulation includes compatibility between life goals and the behaviours associated with them. When a student practises because they want to become a better musician, and this goal is fully aligned with goals that are intrinsic to their sense of self, they display integrated regulation.

Internalizing motivation to practise

It follows that because integrated regulation and identified regulation are relatively close to the self, they can be developed as ways to motivate behaviour that enhance, rather than undermine, intrinsic motivation. In music, many students commence learning for external reasons: at a parent's suggestion, because friends are doing the same activity, or because they want something to occupy their time. Others may commence for intrinsic reasons: they like the sound of the instrument from a young age, or the spontaneous creation of songs prompting their parents to find them a music teacher. Both situations require specific efforts on behalf of the student's teacher or their parents. Using external pressures and demands such as excessive praise and controlling teaching may discourage the internally motivated students and move them toward external motivation. But starting with such practices may not be as damaging to the externally motivated students, as long as the teacher's focus is on gradually assisting the student to internalize their motivations.

Table 2. Types of extrinsic motivation with music-relevant behaviours (adapted from Ryan and Deci, 2000b).

Type of Motivation	Amotivation	Extrinsic Motivation			Intrinsic Motivation
Behavioural regulation	No regulation	External	Introjected	Identified	Integrated	Intrinsic
Perceived locus of causality	Impersonal	Relatively External	←	→	Relatively Internal	Internal
Characteristics and behaviours	No intention No behaviour Low perceived competence	Rewards and punishments Compliance and defiance	Guilt, shame Social approval Ego involvement	Understanding the value and importance of behaviour to identity	Identity pursuits are aligned with the self	Behaviour is undertaken for its own sake
Music practice relevant behaviours	"I don't want to practise." "Practising seems pointless, I'm not a good musician anyway." "I don't understand why I should bother practising."	"I will get in trouble if I don't do it." "I chose music because it is an easy subject." "I practise because my mum said to."	"I practise because I am supposed to." "I will feel proud of myself if I can practise." "I will feel bad if I don't practise." "My family will think I am a good boy/girl if I practise."	"It is important for me to practise." "I don't enjoy practising but I can see that it will help me to learn this difficult piece."	"I know that if I want to be a professional musician one day, I need to practise a lot." "I practise because music is the most important thing to me."	"I enjoy playing my favorite pieces." "When I play my instrument, I lose track of time and get lost in the moment." "I love playing my instrument."

Renwick (2008) studied 677 school-aged children and adolescents who were preparing for music performance examinations. Using an adapted form of the Academic Self-Regulation Questionnaire (Ryan & Connell, 1989), Renwick examined the students' motivations to undertake practice behaviour and to study motives for preparing for their upcoming examination. Despite being tested on the day following their high-stakes examination, many of the students endorsed items in the questionnaire related to internal motivation. Renwick interpreted this result as an indication that this young sample was resilient to the externalizing effects of high-stakes examinations—in other words, that the examinations did not thwart their need for autonomy. Another possible interpretation is that the examination material is so embedded into the curriculum that students do not perceive it as controlling: They may see it as intrinsically central to the activity, and as an opportunity for themselves to bring to fruition work that has otherwise been internally motivated. Yet another interpretation lies in the method used to assess motivation: the items used were explicitly related to exam preparation and practice, so they were more likely to produce a factor related positively to the exams, particularly given that the questionnaire was completed immediately following the exam. Renwick's study is therefore important in clarifying the relationship between students' internalization and motivation for exam preparation in the context of their overall motivation for music learning and practice, and warrants further investigation.

An integrated theoretical approach

The two theoretical ideas outlined in this article—the fulfilment of basic psychological needs, and the types of motivation ranging from regulation external to the self to regulation by the self—are connected. Motivation for an activity is internalized to the extent that the activity satisfies basic psychological needs (Ryan & Deci, 2000b). Teachers, parents, and peers of music students can do things to ensure that basic psychological needs are fulfilled—providing opportunities for competence motivation, providing an environment of social connectedness and belongingness to support relatedness, and providing choice, acknowledging feelings, and nurturing inner motivational resources to support autonomy. The more these needs are fulfilled, the more a music student is able to integrate the values of the social environment and of the task of learning music—practising, performing, developing musical skills—into their identity and sense of self. The reverse relationship also occurs: Doing an activity for internal reasons rather than external motives is in itself inherently needs-fulfilling.

According to a hierarchical model of motivation proposed by Vallerand (1997), and Vallerand and Ratelle (2002), motivation is experienced at several levels, illustrated in Figure 1. The *global* level reflects an overall motivational disposition. This motivational disposition can be experienced as autonomous, controlled, or impersonal, and has strong associations with important life outcomes such as wellbeing and self-concept (Deci & Ryan, 1985a). The *contextual* level reflects life domains, such as work, sports, family life, and social activities. People can be motivated in different ways in different domains; for example, they could feel very controlled and extrinsically motivated at work, but experience fully integrated motivation in their family life. Finally, the *situational* level represents moment-to-moment events in people's lives. A music student could experience a particular music lesson or interaction with their teacher as very controlling, while the next could be more internally motivated.

According to the hierarchical model (Vallerand, 1997), bidirectional influences exist at each level of the hierarchy. For example, a student who experienced a particularly negative interaction with their teacher at the situational level would experience some decline in their motivation for music at the contextual level. If they persisted, such experiences would leave them with a

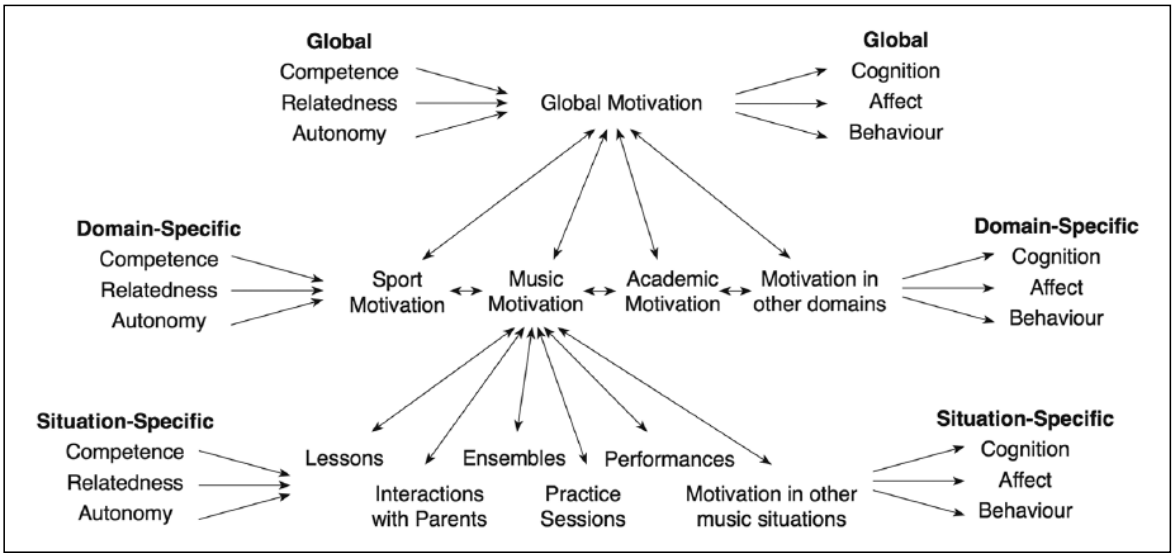

Figure 1. Hierarchical model of motivation in music learning (adapted with permission from Vallerand, 1997).

diminishing motivation for music—one that becomes more and more externalized. They would likely start to regard music at the contextual level as a fairly unenjoyable activity. This would influence their motivation in other domains. If they also had the same experiences of psychological needs thwarting in those other domains, they would experience a fairly external global motivation orientation, one that is associated less with wellbeing and more with illbeing.

Concluding remarks

The question of how music teachers and parents can motivate their students and children to practise may be misguided. Many strategies in common usage by parents and teachers are, according to SDT, ineffective, and may inadvertently undermine motivation in undesirable ways. The better question to consider is, how can parents and teachers create social environments in which their students are more likely to generate their own interest, enjoyment, and motivation, so that they can identify the value of musical practice, integrate it with their sense of self, and find intrinsic motivation in the inherent rewards that musical engagement has to offer? This article has drawn from existing research in music education that aligns with SDT phenomena, demonstrating empirical support that SDT may be an effective framework with which to view motivation in music learning. Furthermore, it has drawn particular themes from the literature about aspects of the social environment of music learning that may be particularly relevant: The nature of studio instruction, differences between formal and informal learning, music examinations, and music practice as the main activity that improves musical ability. These issues and many more have been longstanding themes within the music education literature, particularly with respect to motivation.

Learning music requires immense motivational resources. According to SDT, enticing children to practise by using rewards and punishments, encouraging ego-involvement through the use of excessive praise or ego-avoidance through the imposition of guilt or shame, teaching in a controlling and prescriptive way, and encouraging damaging levels of competitiveness may be at best ineffective strategies, and at worst, deeply harmful to their music motivation and their wellbeing. There is little doubt that a systematic program of research with this perspective is a

productive and important endeavor for researchers interested in understanding motivation for music learning. Notwithstanding a need for research on these issues, it seems clear that music learning is best motivated within a social environment that fulfils basic psychological needs—competence, relatedness, and autonomy—experiences that are as closely associated with health and wellbeing as music itself.

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