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Abigail McHugh-Grifa
Eastman School of Music

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The Use of Touch to Facilitate Learning in Music Education

By

Abigail McHugh-Grifa
Eastman School of Music
Rochester, NY

Abstract

In this literature review, I explore research on touch and non-verbal communication from the fields of music education, general education, and child development, to examine the role of physical touch in music instruction. Several functions of touch in music education are identified, including: 1) to develop positive relationships, 2) to gain a child's attention, 3) to direct the child, 4) to develop audiation, 5) to model musical behavior, 6) to elicit musical response, and 7) to raise body awareness. I conclude that touch plays an important role in the music learning process, and suggest several directions for future research on the use of touch in music education.

One need not look far to find research demonstrating the value of touch in human interaction. Even without any research on the subject, common sense would likely guide most people to conclude that positive touch is an important part of the human experience that no one should have to do without. Its use defines relationships between human beings. For example, from the moment we are born, physical touch is used to cement the bond between parent and child. This early touch is so important that without it, an infant may suffer developmental delays that impact the course of his or her entire life (Field, 1998). Positive touch continues to be important to a child's development throughout the early years, and though the instance of touch in a child's life generally decreases with age, there is no reason to believe that the need for touch decreases as well (Field et al., 1994; Neill, 1991).

The media, especially in Great Britain, has been vocal in speaking out against the decline of touch in music education. According to an article in the *Sunday Telegraph* regarding the response of music teachers to advice from their union that they avoid all physical contact with students, many instrumental music teachers consider touch to be an essential instructional tool (Harrison, 2008). One of the musicians interviewed for this article stated, "Stopping all physical contact with children would hinder the musician's ability to teach effectively.... Children need to have their fingers placed on a keyboard or a guitar to show them how to play" (Harrison, 2008). Another interviewee said, "The stupidity of [a no-touch policy for music teachers] is that you could spend a whole lesson telling children what to do with their hands but if you take hold of them you can show them in two seconds" (Harrison, 2008). Appleton (2005) of *The Guardian* stated, "Touch can help improve a child's technique in music or sport." This article goes on to quote

Nicolas Chishom, head of the Yehudi Menuhin School: “It used to be common practice for violin teachers to feel a pupil’s arm to check they were relaxed, while singing teachers would feel a child’s rib cage to study their breathing pattern. Today violin teachers would warn a child before they touched their arm – and singing teachers ask children to put their own hands on their chest” (Appleton, 2005).

In the United States, perspectives on the use of touch in music education are seemingly more conservative. Though Wilson (2002) of *The Chronicle of Higher Education* agreed that “touching [in music schools] is often necessary, as the professor teaches students how to breathe or place their fingers on an instrument,” the title of her article, “Music’s Open Secret: Confronting the Line Between Individual Attention and Harassment,” reveals a distinctly cautionary attitude regarding the necessity of touch. Further evidence of the uncertainty teachers face in deciding whether to use touch is provided by an article from the *Music Educators Journal*, in which Stufft (1997) recommends two rules for professional conduct: “Be friendly but not familiar,” and “Never touch a student” (p. 40). This seems quite straightforward, until the author later backtracks somewhat:

Over the years, I have thought many times of this second rule and how it relates to touching a student when correcting a hand position on a musical instrument. How one touches the student is the crucial issue. I ask myself, ‘Can I do it by example first?’ ‘Can I use pictures?’ ‘Can I use another student as a role model?’ . . . If I touch a student, I must do it with great caution – I gently move the right thumb to the proper position. I do it gently so that I do not hurt anyone’s fingers. I do it while standing a respectable distance away from the student. I remember that it is best to stand outside the personal space of the student. Some teachers ask permission before touching a student. This is an excellent and courteous approach. (Stufft, 1997, p. 42)

Research outside of the field of music has also addressed the difficulty teachers may face in deciding how and when to use touch. Piper and Smith (2003) suggest that the caring needs of children have been subjugated by the “fear and confusion” of educators looking to avoid accusations of sexual misconduct (p. 879). They also suggest that “it is more damaging for a young child to be touched too little than too much” (Piper & Smith, 2003, p. 880). They use the term “moral panic” to describe what they see as a disproportionate public reaction to the actual threat of sexual abuse in educational settings (Piper & Smith, 2003). The authors support their position primarily with personal accounts from teachers who have felt their care-giving suffer due to an avoidance of touch as well as with statistics documenting the actual occurrence of sexual abuse in schools in comparison to other environments. Similarly, McWilliam and Jones (2005) examine school policies aimed at keeping children safe. They conclude that teachers are now more vulnerable than children, and in their efforts to avoid risk, teachers become less effective educators.

The purpose of this literature review is to explore the appropriateness of using physical touch in music education settings. Touch has been the subject of research in many fields; however, this review focuses primarily on education-based research while sampling from studies on the effects of touch on children’s cognitive, physical, and social/emotional development. In addition, I consider research on cultural perceptions of appropriate and inappropriate touch. I have attempted to include all studies from within the field of music education that specifically address the use of touch in instructional settings. Since these studies are limited in number, I supplement this body of work with research on other forms of non-verbal communication used in music instruction as well as

with a representative sample of touch studies from other fields. Drawing on this collection of studies, I identify several functions of touch in music education and recommend directions for further research in the field.

Developmental Implications of Touch

Research on the developmental implications of touch has demonstrated that without appropriate touch from caregivers, children's cognitive and physical development may be delayed. From a medical perspective, this research has focused largely on the effects of touch on the growth and development of at-risk infants (Field, 1998). From a sociological perspective, this research has sought to demonstrate that touch contributes positively to children's social and emotional adjustment (Field, 1999a; Field, 1999b; Prescott, 1990).

Harlow's work from the 1950s and 1960s on touch deprivation and attachment disorder in rhesus monkeys is commonly cited to demonstrate the value of touch in early development (Piper & Smith, 2003; Hyson, Whitehead, & Prudhoe, 1988; Field, 1999a; Field, 1999b). Harlow (1958) separated infant rhesus monkeys from their mothers and placed them in cages where they were given the choice of a cloth surrogate that provided no food or a wire surrogate equipped with a feeding mechanism. The young monkeys preferred the comfort of the cloth mother, which points to the significance of tactile contact in early development. Harlow also demonstrated that monkeys deprived of physical contact often did not survive, and that those who did survive displayed excessive violence and had trouble reproducing as adults (Field, 1999b).

Field (1998) found that massage therapy could be used as an effective intervention for infants of depressed mothers. These infants typically receive less touch and, as a consequence, show delayed growth and development. As compared to rocking, massage therapy resulted in “more organized sleep patterns, more positive interaction behaviors, and greater weight gain” (Field, 1998, p. 1308). The massaged infants also exhibited significantly lower levels of stress hormones and increased serotonin levels.

In two separate studies, Field compared the aggressive behavior and positive physical interactions of French and American children. In the first of these studies, 40 preschool children were observed on playgrounds in interactions with both their peers and parents (Field, 1999a). The subjects of the second study were 40 French and American adolescents, observed in peer-to-peer interactions that took place at McDonald’s restaurants (Field, 1999b). In both cases, Field found that the French children exhibited more positive touch behavior and less aggressive behavior, both physically and verbally. Field suggests that this data is significant when compared to a study by Prescott (1990) who, in comparing data on touch deprivation and violence in 49 countries, found that countries with low rates of violence tend to exhibit high levels of touching. Field (2002) points to the effects of touch deprivation on hormonal levels as a possible explanation for this phenomenon.

General Education Literature

Touch between children and teachers in school and daycare settings has recently declined due to concerns over sexual abuse (McWilliam & Jones, 2005; Piper & Smith, 2003). This section presents research examining cultural perceptions of appropriate and

inappropriate touch in educational settings. Other education-based research included in this section explores the functions and uses of touch as a non-verbal communication tool in classrooms.

Perceived appropriateness of touch

In their research on attitudes toward physical affection, Hyson, Whitehead, and Prudhoe (1988) asked 301 adults to watch and rate several normal physical interactions between adults and children. The group of subjects, consisting of parents, non-parents, and early childhood professionals, was divided into two groups. One group read a statement about sexual abuse before viewing the video clips, and the other group read a statement about the benefits of touch. In addition, half of the participants in each group were told the adult in the video was the child's parent, whereas the other half was told the adult was a day care provider. The researchers found the subjects' ratings of the videos were highly influenced by the material they had read beforehand. These results "clearly show that prior information and expectations can influence attitudes toward adult-child physical affection" (Hyson, Whitehead, & Prudhoe, 1988, p. 69). The researchers suggest this indicates a need for "comprehensive information and public education" on the benefits of touch (Hyson, Whitehead, & Prudhoe, 1988, p. 74). Approval ratings were markedly lower when the adult in the video was believed to be the child's day care provider, especially when the adult was male.

Field et al. (1994) examined how caregivers of infants, toddlers, and preschoolers perceived their own touch behavior in relation to their actual touch behavior. The researchers observed touch interactions in infant, toddler, and preschool nurseries. They then categorized these teacher-to-child and peer-to-peer touch interactions into three

groups: positive touch, negative touch, and caregiving touch (e.g., diapering and carrying a child). They found that teachers thought they touched students more than they actually did. The results also showed that boys received more positive touch than girls and positive touch decreased progressively as the age of the students increased. These discrepancies were brought to the teachers' attention and they were asked to touch the children more frequently. In follow-up observations, positive touch increased.

Neill (1991) assessed responses to touch of children aged 9 to 17, according to the type of touch, part of the body touched, and the familiarity and sex of the toucher. The researcher divided the 328 participants into five groups, according to age. These groups were then issued a questionnaire asking for their responses to a series of visual images showing various types of touch. The results showed that touch from a familiar teacher was generally accepted positively, except among 17-year-olds, and touch from a stranger was disliked across all ages. Neill (1991) also found that "the shoulder and arm were the most liked areas for touch at all ages," and "the chest and legs were the least preferred areas to receive a touch, especially for girls after puberty" (p. 157).

Functions of touch in the classroom

Neill (1991) notes, "One of the most striking changes in non-verbal communication during childhood is the decrease in touching children receive from babyhood, when they are touched freely by both relatives and others, to the strictly limited touching of adolescence and adulthood" (p. 149). However, Neill's research indicates that touch can serve multiple functions in the classroom:

Children's responses to teachers' non-verbal signals showed an unexpected positive reaction to types of touch which were seen as showing that a teacher was 'fun' or 'friendly'. These include not only friendly and supportive touch, but also directing touch (a teacher steering a child). (Neill 1991, p.149)

Watts and Bentley (1987) also conclude that physical touch used as a non-verbal cue contributes positively to students' perceptions of their teachers. Through an examination of literature on both cognitive development and non-verbal behavior, the researchers support their claim that by establishing a positive learning environment, teachers facilitate children's ability to experience conceptual change (i.e., learning). They suggest the reason for this may be that non-verbal behavior clarifies the feedback students receive from their teachers. The authors state, "Youngsters are shrewd judges of behaviours which indicate trust, sympathy and empathy in teachers," and they "prefer to work for and learn with teachers they trust" (Watts & Bentley, 1987, p.121). Physical touch is named as a key ingredient in developing this trust.

Larsen (1975) found that "preschool children, especially girls, benefit significantly by increased teacher support in learning a motor skill" (p. 631). The motor skill taught in this experimental study was skipping. Supportive behaviors were divided into four categories: physical proximity, facial, verbal, and physical contact. Supportive physical contact was further defined as behaviors such as "embracing, patting, and holding hand or arm of child" (Larsen, 1975, p. 632). The results of this research also showed that "increased teacher supportive behavior [was] not related to cognitive learning" (Larsen, 1975, p. 636). The researcher speculated that this might be due to an increased need for focused concentration in the performance of a cognitive task, during which "supportive teacher interactions...may be distracting rather than assistive or beneficial to mental functioning" (Larsen, 1975, p.636). In addition, Larsen found that three of the four supportive behaviors (viz., physical proximity, positive verbal behavior, and physical

contact) increased considerably after teachers participated in a training program designed to encourage these behaviors.

Music Education

Touch in music education has not been widely researched. As with touch research in general education, the music education literature indicates that touch contributes to the creation of a positive environment where effective learning can take place (Hornbach, 2005). Researchers have documented the use of touch as a means of modeling musical behaviors and eliciting musical responses from young children in early childhood music classes (Hornbach, 2005; Metz, 1989). However, no studies about the use of touch to accomplish similar goals with older students in instrumental music lessons were identified in the process of writing this review, with the exception of studies that advocate the use of touch in music lessons as part of Alexander Technique training (Bosch & Hinch, 1999; Chen, 2006; Chien, 2007). Although several studies have demonstrated the importance of non-verbal communication in music classrooms (Goolsby, 1996; Goolsby, 1999; Grechesky, 1985, Hornbach, 2005; Metz, 1989), most do not specifically identify touch as a non-verbal communication tool that teachers have at their disposal.

Touch to Elicit Musical Responses

Researchers have demonstrated that touch can be used to elicit musical responses from children. Metz (1989) conducted a study aimed at exploring preschool children's movement responses to music in a free play music-learning center designed by the researcher. In the first phase of this study, the researcher observed the children from outside the classroom, to establish a baseline description of typical classroom activity.

Following this, the investigator collected data through participant observation, acting as both teacher and observer within the classroom. Observational data was supplemented with surveys and interviews given to parents and school staff. Metz found that “in interactions with 2-year-olds, the researcher occasionally was able to use *tactile modeling*; for example, there were several opportunities to take the hands of a child and swing them back and forth to the music. The older the children, the more able or motivated they seemed to be in imitating teacher modeling on their own, resulting in the need for less tactile modeling” (Metz, 1989, p. 52). Teacher modeling focused primarily on body technique in response to music, such as lifting feet or swinging arms.

Hornbach (2005) examined various teacher initiatives that lead to musical response in children. The researcher observed 14 infants/toddlers and two teachers during six meetings of their early childhood music classes. The researcher also conducted interviews with both the children’s teachers and parents. Hornbach found that physical touch was one method that teachers used to “gain a child’s attention, develop the teacher-child relationship, and elicit children’s responses” (Hornbach, 2005, p. 89). One teacher interviewed for the study expressed her belief that touch helps to develop audiation skills in situations where the child anticipates a certain physical touch (e.g., poking, tickling, etc.) at a specific point in the music. Other non-verbal teacher initiatives used to elicit musical response included the use of breath, body movement, use of props, and teacher silence.

Reynolds (1995) investigated movement responses to music of young children, aged 18 months to 3 years, and their caregivers. The purpose of this study was to compare children’s movement responses in duple and triple meters and to examine stimuli that

elicit free-flowing and pulsating responses. Reynolds gathered data on 22 children and their caregivers during 10 weekly early childhood music classes. The investigator documented 284 different movements used by the subjects in response to two selected chants. Unlike Metz's study, in which the teachers consciously used touch as a strategy for modeling musical behaviors, Reynolds specifically instructed the teachers not to touch the children or their caregivers. Thus, the observed touch interactions between parents and children in response to music were both unprompted and unmodeled.

While the three previously mentioned studies addressed the relationship between touch and children's musical responses in early childhood classes, O'Neill (2007) observed touch used to elicit musical response in the context of Suzuki home practice sessions. Through observation of parent-child interaction in the videotaped practice sessions of 30 Suzuki students, O'Neill found that parents used touch regularly "to demonstrate or assist the Suzuki students with understanding or accomplishing their goals" (O'Neill, 2007, p. 2). On average, parents used touch as a means of demonstration or communication 24 times per practice session.

Alexander Technique

Alexander Technique is a method used "to teach people how to re-educate themselves to use muscles properly and maintain correct postures in daily life" (Chien, 2007, p. i). One of the main tools an Alexander technician uses with clients is touch (Stein, 1999). Several goals of Alexander training are to bring the body into alignment, to develop mind-body coordination, and to increase awareness and control of unconscious reactions. Researchers suggest that instruction in the Alexander Technique can help musicians prevent or alleviate symptoms of performance related injuries (Bosch & Hinch,

1999; Chen, 2006; Chien, 2007; Kaplan, 1994), manage performance anxiety (Chen, 2006; Kaplan, 1994; Valentine, Fitzgerald, Gorton, Hudson, & Symonds, 1995), and improve breath control (Bosanquet, 1987; Bosch & Hinch, 1999; Chen, 2006). In this context, therefore, touch is used to promote mind-body awareness, which in turn reduces performance related injury and performance anxiety while improving breath control.

It is worth noting that many reports on the effectiveness of Alexander training for musicians are based largely on anecdotal evidence (Bosanquet, 1987; Bosch & Hinch, 1999; Stein, 1999). However, a limited number of more rigorous studies have used qualitative methods to document the experience of musicians and music teachers who use the Alexander Technique to improve their performance (Chen, 2006; Kaplan, 1994). A major limitation of these studies is that they provide no account of individuals who have had negative experiences with Alexander training. Valentine, Fitzgerald, Gorton, Hudson, and Symonds (1995) used an experimental design to compare the performance in high and low stress situations of students who had received Alexander lessons to a control group of students who had received no Alexander training; however, results of this study were somewhat inconclusive.

Non-verbal Instruction

Research has examined ways in which conductors use non-verbal cues to elicit musical responses from their ensembles (Goolsby, 1996; Goolsby, 1999; Grechesky, 1985). Though these studies do not specifically identify touch as a possible means of non-verbal communication, they are relevant to this review because they reveal benefits of communicating without words in music education settings. Because the participants in these studies were all conductors, it is reasonable to assume that their opportunities to use

touch may have been limited by the physical distance between podium and ensemble, thereby explaining why touch was not identified as a non-verbal communication tool in these studies.

By analyzing the verbal and non-verbal behaviors of high school band directors, Grechesky (1985) determined that non-verbal cues, such as body movement and facial expressions, were more effective than verbal instruction in eliciting a musical performance from the ensemble. The musicality of each of the 20 participating ensembles was determined by a panel of expert judges based on a representative audio recording submitted by the band's director. After a baseline rank order of musicality was established, each conductor was given an equal amount of preparation and rehearsal time to work on a selected composition. A final recorded performance of the prepared composition was also evaluated and ranked by the judges. The conductor's behaviors in rehearsal and performance were observed and coded. Grechesky determined that 11 behavior variables affected rank, six of which were non-verbal: stationary body movement, approaching body movement, departing body movement, approving facial expression, disapproving facial expression, and left hand usage indicating dynamics. Ensembles with conductors who engaged in more non-verbal communication behaviors performed more expressively overall.

Goolsby (1996, 1999) demonstrated in two separate studies that experienced band directors spend far less rehearsal time on verbal instruction than do novice teachers. In the first study, Goolsby (1996) analyzed the conducting behaviors of a total of 30 subjects, divided equally between experienced teachers, novice teachers, and student teachers. Although there was little difference in the amount of time devoted to the task of

rehearsing, “experienced teachers devoted more than twice as much time to performance than to verbal instruction; they also spent more time in non-verbal demonstration and modeling behaviors than the other teachers” (Goolsby, 1996, p. 292). The design of Goolsby’s (1999) second study was quite similar, save that 10 expert and 10 novice teachers were asked to prepare identical compositions, which were later rated in performance. Although the novice teachers spent more time preparing their pieces, their end performances were judged to be inferior. Novices spent 44% of their rehearsal time in verbal instruction, compared with 32% of the experts’ rehearsal time.

Discussion

Drawing from the research reviewed in this paper, many functions of touch in music education can be identified: (1) developing positive relationships, (2) gaining a child’s attention, (3) directing the child, (4) developing audiation, (5) modeling musical behavior, (6) eliciting musical response, and (7) raising body awareness. Each of these functions will be discussed in detail in the following paragraphs.

Neill (1991), Watts and Bentley (1987), and Hornbach (2005) demonstrated that the first of these seven functions, developing positive relationships, is an essential component of quality education. This type of touch might include hugs, a pat on the back, or allowing the child to sit on the teacher’s lap during class. Research such as Larsen’s (1975) inquiry into increased teacher support and Watts and Bentley’s (1987) examination of non-verbal cues and conceptual change further suggests that positive relationships between teacher and student result in more effective teaching and learning.

Another function of touch is to gain a child's attention (Hornbach, 2005). Though the need for this type of touch decreases as a child matures, establishing physical contact with very young children is an efficient and practical means of attracting the child's focus. When dealing with behavioral issues in a classroom setting, this type of touch can be used to subtly redirect disruptive or inattentive students, without interrupting the flow of the lesson.

When using directing touch, teachers guide students to move their bodies in specific ways. In the context of an early childhood music classroom, directing touch might be used to literally steer a child in the steps of a circle dance, while in an instrumental lesson, a teacher might use this type of touch to guide the path of a student's bow arm. Neill (1991) found that directing touch is acceptable to most children.

Touch may also play a role in developing audiation skills in young children (Hornbach, 2005). This function of touch is employed when a teacher predictably tickles or pokes a child on a specific musical cue. By learning to anticipate where in the music the touch will come, the child begins to audiate at a basic level.

Touch may be used as a means of modeling musical behavior (Metz, 1989) and eliciting musical response (Hornbach, 2005). These functions of touch may take the form of bouncing a baby to the beat or signaling with physical touch that it is the child's turn to perform. Touch that models musical behavior or elicits musical response provides children with a kinesthetic experience of musical sound.

In Alexander Technique, touch is used to bring the student's consciousness to areas where he or she is holding tension or where the body is poorly aligned. Music teachers, both those who are trained in Alexander Technique and those who are not, may

use touch to direct a student's attention to his or her own physical sensations for the purpose of raising body awareness and helping students release tension (Chien, 2007; Stein, 1999). This increased physical awareness can help musicians prevent or alleviate symptoms of performance related injury, minimize performance anxiety, and improve breath control (Chen, 2006; Kaplan, 1994).

Music educators may also employ touch as a mode of direct instruction (e.g., manual placement of the student's hands onto the instrument). Curiously, this type of touch was not mentioned in any of the formal research literature covered in this review, though references to this type of touch abound in professional journals and media sources (Appleton, 2005; Harrison, 2008; Stufft, 1997; Wilson, 2002).

Teachers may be reluctant to touch their students due to the pervading "moral panic" that leads many observers to question the appropriateness of touch in educational settings (Piper & Smith, 2003). However, evidence suggests that with proper education as to the benefits of touch, adult observers, such as parents, are more likely to respond positively to touch interactions between teachers and students (Hyson et al., 1988). In addition, through education about the benefits of touch, teachers who might not use touch frequently in their teaching can be encouraged to touch their students more (Field et al., 1994).

The general education literature on non-verbal communication presents valuable information for music educators in terms of how they can effectively use touch in their classrooms. Neill (1991) demonstrated that children generally respond positively to touch, especially when this touch is in the area of the arms and shoulders where music educators would be most likely to touch their students. Larsen's (1975) research on verbal and non-

verbal teacher support is especially relevant for music educators in that it demonstrates how teacher support, in the form of physical proximity, positive facial expression, verbal encouragement, and physical contact, improves student learning of motor skills. Playing an instrument is indisputably a motor skill; therefore, music instruction can likely be facilitated by the use of touch. One caveat here is Larsen also found that increased teacher support did not improve student performance on a cognitive task, a category into which playing an instrument also falls. Larsen's findings are somewhat in conflict with the work of Watts and Bentley (1987), who concluded that physical touch improved cognitive learning by establishing a positive learning environment. These seemingly contradictory findings may indicate that teachers need to balance their use of touch and other non-verbal cues to ensure that they are not distracting their students at times when the immediate need for focused concentration outweighs the benefit of increased teacher support. This should be done while still providing enough support to establish an environment where mutual trust between student and teacher can develop.

There is also evidence supporting the use of non-verbal instruction within music education research. Grechesky (1985) and Goolsby (1996) both demonstrated the value of non-verbal instruction in conducting band rehearsals, though their rationale for its use was quite different than that of general education researchers. Grechesky found that non-verbal instruction resulted in a more musical performance than did verbal instruction. This may stem from the subjective nature of musicality and musical performance. Goolsby discovered that increased non-verbal communication was related to efficient time use in rehearsals. However, neither of these studies identified touch as an observed means of non-verbal communication, which may indicate that conductors have limited opportunities

to use touch due to the physical constraints of the distance between the podium and ensemble members.

Although Metz (1989) and Hornbach (2005) established that touch can be used to model musical behavior and elicit musical response from children in early childhood music classes, the question of whether this is also true in instrumental music instruction remains largely unexplored. O'Neill (2003) demonstrated that parents use touch to accomplish musical goals when working with their children as the Suzuki home teacher, which may or may not be in imitation of techniques used by the studio teacher. If parents are spontaneously turning to touch as a means of engaging musically with their children as the Suzuki home teacher, this resonates with the results of Reynold's (1995) study in which parents touched their children in response to music without touch having first been modeled by the teacher in early childhood music classes.

Conclusion

It is clear from writings in professional music journals and popular media sources that music educators are undecided as to whether or not touch is an acceptable element of music instruction (Appleton, 2005; Harrison, 2008; Stufft, 1997; Wilson, 2002). Although many teachers may believe that touch is an effective and efficient tool for instructing their students, they may avoid its use. Existing research on touch in music education is quite limited, which does not help teachers make informed decisions about the use of touch in their teaching. By supplementing music education research with touch research from developmental studies and from the field of general education, as attempted in this review of literature, it becomes clear that touch plays an important role in the learning process

(Hyson et al., 1988; Larsen, 1975; Watts et al., 1987). The intent of this review is to explore the appropriateness of using physical touch in music education settings. The evidence presented indicates that touch contributes positively to music instruction in a variety of ways, suggesting that music educators may legitimately question the value of no-touch policies in educational settings.

Ideally, these questions will stimulate future research on the use and effectiveness of touch in music education. Further research is needed on the use of touch as a direct instructional tool in music, as no existing research in this area was identified. Other possible areas of inquiry include the study of Alexander Technique in instrumental music instruction and research into parents' unprompted use of touch in musical interactions with their children. Additionally, observational research leading to more clearly defined categories of touch in music education might be helpful in determining what types of touch are appropriate for teachers to use and what types are not. Finally, considering that many of the research and news media articles located for this review were of British origin, future research should consider other cultural perspectives on the use of touch in music education.

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