

**The perceived effects of extracurricular music participation on preschool
children's social skills in Hong Kong**

by

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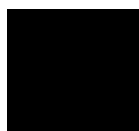


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Abstract

The purpose of this research was to investigate the effects of extracurricular music participation on preschool children's social skills in Hong Kong. This study was quantitative dominant, whilst qualitative data was collected to triangulate with the quantitative data. Phase one was the intervention and quantitative data collection whilst individual interviews and class observations were conducted in phase two. Interventions were three different extracurricular activities including: 1) group music training; 2) piano lesson; and 3) drawing class. The duration of the interventions was 24 weeks and the instrument used to collect data was the *Social Skills Improvement System-Rating Scale (SSIS-RS)*. Participants were 180 preschool children aged from four to five ($n_1=72$, $n_2=72$, $n_3=36$).

Interviewees were teachers and parents from the different intervention groups. Results of ANOVAs revealed that extracurricular activities have positive effects on participants' social skills. Tukey post hoc tests revealed that the effects of group music training on participants' social skills was significantly higher than the piano lesson and the drawing class in all seven subscales; effects of piano lesson on participants' social skills were significantly higher than the drawing class in four subscales. Qualitative data indicated that parents' understanding of social skills was similar with each other. Parents' expectations of extracurricular activities were varied between groups, but were similar within each studied group. Teachers' perception of social skills and their perception of their role and responsibilities were diverse between groups. Teachers' perception of effects of extracurricular lessons on young children's social skills was diverse too. Qualitative data showed that parent' expectations on the extra-curricular activities, teachers' beliefs and instructional strategy might influence the results.

This study indicated that music education can play a role in young children's development; intervention music programs can be constructed for preschool children who

have difficulties to acquire social skills. Future studies should examine the associations between family's socio-economic status and children's social skills in the context of Hong Kong. Particular interventions to develop group music classes that specifically target and refine the development of social skills and a positive attitude may help to improve some of the problems that students experience.

Keywords: extracurricular activities, music participation, preschool, social skills



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List of Abbreviations

BCA	Basic Competency Assessment
BEd (ECE)	Bachelor's in Early Childhood Education
CDC	Curriculum Development Council
ECEC	Certificate in Early Childhood Education
FQKES	Free Quality Kindergarten Education Scheme
HKSAR	The Government of the Hong Kong Special Administrative Region
IQ	Intelligence Quotient
JMC	Junior Music Course
KKLL	Kids by Kiddy Land Limited
LSSP	List of Social Situation Problems
MESSY	Matson Evaluation of Social Skills for Youngsters
MGI	Musical Group Interaction
Pre-S1	HKAT Pre-Secondary One Hong Kong Attainment Test
PVES	Pre-primary Education Voucher Scheme
QKT	Qualified Kindergarten Teacher
SBAI	Social Behavior Assessment Inventory
SES	Socio-economic Status
SRS	Random Sampling Method
SSBS	School Social Behavior Scales
SSES	Social Skills Evaluation Scales
SSIS-RS	Social Skills Improvement System-Rating Scales
SSRS	Social Skills Rating System
TSA	Territory-wide System Assessment
VkC	Vkids Creative

WMS	Walker-McConnell Scale of Social Competence & School Adjustment
WSSRS	Waksman Social Skills Rating Scales
YMES	Yamaha Music Education System



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CHAPTER 1: INTRODUCTION

This chapter describes the background of the Hong Kong pre-primary education and education system, followed by an outline of music education in schools. Next, the context of extracurricular music lessons in Hong Kong and the relationship between music participation and children's development is explored. Lastly, the statement of the problem, the purpose of the study, the research questions are outlined.

Background

Education in Hong Kong. Hong Kong Island became a colony of the British Empire at the end of the First Opium War in 1842 (Hoe & Roebuck, 1999). The Kowloon Peninsula was ceded and the New Territories was leased to Britain after the Second Opium War in 1860 and 1898 respectively. The entire territory was returned to China in 1997. Therefore, the Hong Kong education system mainly follows the United Kingdom's system because of its historical background. According to the Hong Kong Education Bureau (2018a), preschool education is a three-year program (K1-K3) for children aged three to six, followed by primary and secondary education. The Hong Kong Education Bureau supervises the system. The government has extended free education in public sector schools from nine years (primary and junior secondary) to twelve years (primary to senior secondary) as of the 2008/09 school year. Hong Kong children are required by law to attend a primary school from the age of six and to attend a secondary school after their primary education; they complete their secondary education by the age of 19. Although kindergarten education is not mandatory, the majority of Hong Kong parents are working couples, and thus most of them send their children to kindergarten from nursery level (one year before K1). Parents send their children to kindergarten to learn discipline and positive attitude and to interact with their

peers.

Pre-primary education in Hong Kong. All kindergartens in Hong Kong are privately run and they can be categorised as non-profit-making kindergartens and private independent kindergartens depending on their sponsoring organisations which can be either voluntary agencies or private enterprises (Education Bureau, 2018a). All kindergartens are registered under the Education Ordinance. Inspectors from the Education Bureau visit the kindergartens regularly to give advice to principals and teachers on curriculum, teaching approaches and school administration. At present, most of the kindergartens operate on half-day basis offering upper, lower kindergarten classes and nursery classes. Some kindergartens operate full-day and long full-day kindergarten classes too. Based on the report from the Hong Kong Education Bureau-School Education Statistics Section (Education Bureau, 2018b), as of the school year 2017/18, there were 1,030 registered kindergartens in Hong Kong, comprising 881 local kindergartens and 149 international kindergartens. The total number of kindergarten students was 181,147, ninety-two per cent of students (167,032) attended local kindergartens, while the rest (14,115) attended international kindergartens. The pre-primary education voucher scheme (PVES) began in the 2007/08 school year; it provided direct fee subsidy for parents, which also improved the overall quality of kindergartens. For example, kindergarteners who joined this scheme received HKD\$22510 in the 2015/16 school year and HKD\$23,230 in the 2016/17 school year per year respectively as a school fee subsidy, the PVES reduces Hong Kong parents' expenditures on pre-primary education (Education Bureau, 2018b). From the 2017/18 school year, the Government of the Hong Kong Special Administrative Region (HKSAR) implemented a new scheme for pre-primary education: the "Free Quality Kindergarten Education Scheme (FQKES)". Different from PEVS, FQKES provides direct subsidies at a larger amount on a per student per annum basis to local non-profit-making kindergartens. In the 2018/19 school year, under the FQKES, the non-profit-making



kindergartens which joined this scheme receive an annual subsidy HKD\$34,320 per half-day student, HKD\$44,620 per whole-day student and HKD\$54,910 per long whole-day student. The government expects this to cover full tuition fees for up to 80% of half-day session children (Education Bureau, 2018b). In the 2016/17 school year, the average annual school fee on top of the subsidy under PEVS paid by parents were about HKD\$5,700 and HKD\$21,400 for half-day and whole-day classes respectively (Legislative Council Secretariat, 2018). After the replacement of FKQES in the 2017/18 school year, the average school fee decreased to HKD\$3,000 for half-day and HKD\$8,100 for whole-day classes. School fee of kindergartens which did not join the PVES or FKQES are more expensive. For example, in the 2017/18 school year, average school fee of non-profit-making kindergartens not under FKQES was HKD\$36,100 for half-day and HKD\$80,600 for whole-day classes (Legislative Council Secretariat, 2018). For the private independent kindergartens, average school fee in the school year 2017/18 was HKD\$59,100 for half-day and HKD\$72,800 for whole-day classes (Legislative Council Secretariat, 2018). Although the PVES and FKQES reduce the monetary burden on Hong Kong parents and popularises preschool education in the city. However, on top of school fees, parents have to pay for school uniforms, textbooks and materials, tea and snacks, other school activities such as birthday parties, etc. These extra fees differ from school to school (“Education report: kindergarten overview 幼稚園概覽”, 2018).

Based on the *Guide to the Pre-Primary Curriculum* that the Curriculum Development Council (CDC) issued in 2006, the aim of early childhood education is to foster children’s whole person development. The four core developmental objectives for young children include physical development, cognitive and language development, affective and social development and aesthetic development (CDC, 2006). These objectives are achieved through six learning areas, including physical fitness and health, language, early mathematics, science and technology, self and society and arts. The Education Bureau writes that kindergarten

education in Hong Kong is meant to nurture children to attain holistic development in different domains, including ethics, intellect, physique, social skills and aesthetics (德, 智, 體, 群, 美); to develop good habits to prepare them for life; and to stimulate their interest in learning and create positive learning attitudes in order to lay the foundation for their future learning.

Although children attain holistic development in different domains in pre-primary education, Hong Kong parents send their children to play groups and extracurricular lessons starting at a very young age. There are play groups for infants and extracurricular courses for children from kindergarten to high school. However, the majority of these courses are for children in pre-primary up through primary school. Simply, extracurricular lessons in the Hong Kong market can be categorised as focusing on academic and intellectual development such as language, mathematics and chess; arts activities such as music, drawing, dance, drama, choir and orchestra; and physique including swimming, skating, ice-skating, tennis, football, gymnastics, etc.

Kindergarten teachers' qualifications. The minimum academic entry qualification for kindergarten teachers is five passes including both Chinese and English, in the Hong Kong Certificate of Education Examination (HKCEE)/Hong Kong Diploma of Secondary Education Examination (HKDSE); this must be achieved in a maximum of two sittings (Education Bureau, 2018a). Kindergarten teachers are not required to have any qualifications in special areas, such as arts and physique. Since September 2003, all newly appointed kindergarten teachers are required to possess a Qualified Kindergarten Teacher (QKT) qualification or its equivalent. Teachers gain the QKT qualification after completing a one-year full-time kindergarten education programme that the Education Department (formerly, the Education Bureau) and the Social Welfare Department recognise; or, they can achieve an equivalent qualification. Starting in the 2003/04 school year, all kindergartens are

required to maintain a teacher-to-student ratio of no more than 1:15. With the implementation of the PEVS in the 2007/08 school year, direct fee subsidies to parents and parallel financial support for teachers' professional upgrading have been provided by the Government of the Hong Kong Special Administrative Region (HKSAR). Starting from the 2012/13 school year, kindergartens under the PEVS are required to employ sufficient numbers of teachers possessing the Certificate in Early Childhood Education (CECE) qualifications based on the teacher-to-pupil ratio of 1:15.

Authorised institutes and universities provide pre-service training courses on early childhood education, including diploma and certificate courses, degree courses and postgraduate diploma courses in Hong Kong. In the 2017/18 school year, the relevant courses and authorised education organisations were as follows:

1) Diploma and Certificate Courses

- The Education University of Hong Kong: Higher Diploma in Early Childhood Education
- The Hong Kong Institute of Vocational Education: Higher Diploma in Child Care and Education
- School of Continuing Education, Hong Kong Baptist University: Higher Diploma Level of Bachelor's of Education (Honours) in Early Childhood Education
- The Open University of Hong Kong: Diploma in Early Childhood Education
- Caritas Institute of Community Education: Higher Diploma in Early Childhood Education
- Li Ka Shing Institute of Professional and Continuing Education, The Open University of Hong Kong: Higher Diploma in Early Childhood Education
- Yew Chung Community College: Higher Diploma in Early Childhood Education
- Tung Wah College: Higher Diploma in Early Childhood Education

2) Degree Courses

- The Education University of Hong Kong: Bachelor's of Education (Honours) in Early Childhood Education
- School of Continuing Education, Hong Kong Baptist University: Bachelor's of Education (Honours) in Early Childhood Education

3) Postgraduate Diploma Courses

- School of Continuing Education, Hong Kong Baptist University: Postgraduate Diploma in Early Childhood Education
- The Chinese University of Hong Kong: Postgraduate Diploma in Education
- The Education University of Hong Kong: Postgraduate Diploma in Education
- The University of Hong Kong: Postgraduate Diploma in Education

To optimise preschool education in Hong Kong, all new principals beginning in the 2009/10 school year are required to have a Bachelor's in Early Childhood Education (BEd ECE), a one-year post-qualification experience and should have completed a recognised certificate course on principalship before, or in certain exceptional circumstances, within the first year of their appointment (Education Bureau, 2018a).

The social value of education in Hong Kong. The education system in Hong Kong is highly competitive, and considerable social value is attached to achieving good results in examinations. Lau and Kuan (1997) have described it as a 'utilitarian' culture in which education is prized as a facilitator of social mobility (Leung & McPherson, 2010; Wong & Ng, 1997). Hong Kong parents believe that if their children secure a place in a band-one secondary school, they will have a better chance of going to university, getting a good job and having a better life in the future. As a result, education in Hong Kong is exam-orientated, and teaching methods are teacher-centred. In the Hong Kong tradition, parents and teachers expect children to focus more on the main academic subjects, including Chinese, English and

mathematics and general studies, rather than other subjects such as music and visual arts (Morris, 1996). Compared to 10 years ago, the education system in Hong Kong has grown more and more competitive. Nowadays, pre-primary students are pushed to learn writing, copying, calculating and English in order to prepare for primary school; work sheets are given to students as homework. The situation is getting worse, prompting the government to review the *Operation Manual for Pre-Primary Institutions* (2006) in September 2016(教局擬修指引, 2016). Early revisions included statements like, ‘don’t ask children to do mechanical copying exercises’, ‘don’t ask children to do excessive drills on calculation’ and ‘for exposure to the English language for non-English speaking children, don’t ask them to copy and spell English words’ (Education, 2018c). The final draft of the updated version of the *Kindergarten Education Curriculum Guide* was issued in May 2017, suggesting that mechanical copying, reciting or memorising vocabulary would put pressure on children and decrease their interest in learning English; further, it argued that mechanised mathematical exercises would make children grow tired of mathematics. Overall, it suggested that the aforementioned teaching methods not be adopted (CDC, 2017, p. 33).

Beginning in 2004, Hong Kong primary three students must take part in the territory-wide system assessment (TSA), which is an integrated assessment of the territory. It provides objective data to help schools understand students’ basic competencies in Chinese, English and mathematics at the end of primary three, which is the third year of primary education. The assessment reports and school reports of the TSA provide information to enable schools and teachers to understand students’ strengths and weaknesses in basic competencies and to optimise their learning and teaching programs. The test results also enable the government to provide appropriate support to schools based on detailed assessment information. Students’ performance on the TSA affects the ranking of their schools; needless to say, schools want their students to achieve good results. Therefore,

students are requested to attend extra lessons and to do extra work such as training workbooks and mock exam papers. As a result of this assessment system, schools want to recruit talented students so that they can ensure students' good performance in the TSA and thus keep their position in the school ranking. At the same time, parents want their children to enter band-one primary schools to give them a better chance to be promoted to band-one secondary schools, thus improving the possibility that their children will enter their favourite university. Different parties including schools, parents and educators have questioned the TSA, arguing that it puts too much pressure on young children and twists the education system, causing it to be exam-oriented and training children for the examinations. The Education Bureau cancelled the TSA in 2016; it has since launched a new assessment system in May 2017: the basic competency assessment (BCA), although different stakeholders, including schools, teachers, parents, students, educators and legislators, object to resuming assessment at the primary three level. Based on the Coordinating Committee on Basic Competency Assessment and Assessment Literacy's review report, in March 2018, the Education Bureau announced that TSA for primary three students would be resumed on a yearly sampling basis starting from the same year, with a sample size of about 10% of students from each public sector and direct subsidy school. However, primary schools can arrange for all their primary three students to participate in the TSA voluntarily. The practice was that nearly 50% of all primary schools (about 230 schools) chose to have all their primary three students participate in the TSA in 2018, which was conducted in May and June (230 小學全級考 TSA, 2018).

From pre-primary to primary. Hong Kong children begin kindergarten at the age of three. To do so, their parents need to complete a registration form from the Education Bureau and submit it along with an application form for the kindergarten they prefer. The principals and teachers then interview the prospective students and their parents – some schools will

arrange second interviews for the shortlist students from the first round. Hong Kong students start competing with others before they enter kindergarten, with some parents sending their children to interview training courses to ensure their children give good responses in their kindergarten interviews. In order to make their children's profiles more outstanding, parents want their children to obtain as many certificates as possible so their children's profiles are more attractive. Parents think that certificates will show off their children's extra skills and special abilities. For instance, certificates of extracurricular courses including language, mathematics, music, choir, dance, participation certificates from concerts and certificates of competitions such as Hong Kong Schools Music and Speech Festival are very popular in Hong Kong.

When children reach the age of five years and eight months, they are eligible to participate in primary one admission. According to the Education Bureau (2019a), first, students join the 'central allocation': the territory is divided into 36 school nets, and students are allocated to one of the primary schools in the school net in which they reside. If students want to enter a particular school, they need to submit an application form directly to that particular school, which will then interview and assess them. Extra skills may increase the chance of being accepted by a band-one primary school; therefore, Hong Kong parents are very eager to send their child to extracurricular lessons from a preschool age. Parents think that the more certificates they have, the better chance their children have of entering a band-one primary school. As mentioned above, the PVES reduces the monetary burden on Hong Kong parents; this policy may increase parents' financial capability to send their children to extracurricular activities.

Primary six children are assigned to a secondary school through 'central allocation'; this allocation system is based on three components: allocation band, parental choice and random number (Education Bureau, 2019b). A random number is assigned to each student via

computer. It is used to determine the order of allocation within the same allocation band. The allocation band is divided into Territory Band 1, Territory Band 2 and Territory Band 3. The Territory Bands are based on students' academic achievement in the second semester of primary five and primary six (whole year) as well as their scores on the Pre-Secondary One Hong Kong Attainment Test (Pre-S1 HKAT). The computer will first process the school choices of students in Territory Band 1, then the choices of students in Territory Band 2, and lastly, the choices of Territory Band 3 students. Before the 'central allocation', students can send their applications to two particular secondary schools they would like to attend. Normally, good academic achievement is the minimum requirement, but students who have superior extra skills such as sports (the most popular ones are swimming, track and field), music (piano is a basic requirement, and students need to have other musical abilities such as vocal or other instruments in addition) will increase the chance of being accepted into the school.

Although the Hong Kong government has suggested that education should be children-centred, the competitive education system makes stakeholders, including schools, parents and students, care more about examination results; thus, our social value toward education is exam-oriented. Furthermore, Confucian ideology has been influential in Chinese culture – teachers are held in high esteem, and children are expected to respect their teachers (Szalay, Strohl, Fu, & Lao, 1994) and follow their instructions without question. Especially in traditional schools (local schools), children are taught to follow their teachers' instructions without question – they are trained to give the model answers that the teachers prefer, and they are expected to achieve good results in their examinations. Children brought up with these social values will be inclined to target achieving tangible learning outcomes, thus gaining self-satisfaction and raising self-esteem (Wong & Watkins, 2001).

Music education in Hong Kong schools. In terms of arts education, the Hong Kong

Curriculum Development Council (CDC) published the *Arts Education Key Learning Area Curriculum Guide (Primary 1 – Secondary 3)* in 2002. The document sets out the directions, strategies, rationale and learning targets for the development of arts education in schools.

There are four learning targets in the music curriculum: 1) developing creativity and imagination, 2) developing music skills and processes, 3) cultivating critical responses in music and understanding music in context through integrated activities of creating and 4) performing and listening. However, the practical situation may not be the same as the theory. In practice, children attend two music lessons per week in primary school and one music lesson per week in secondary school in Hong Kong, and the focus is mainly on instrumental performance, singing and music theory (Leung, 2000). The fact is that tangible learning outcomes are easier to measure and easier for parents and schools to recognise than intangible musical abilities such as creative music making, musicality and musical sense. In October 1997, the Hong Kong Government (HKSAR) set up the Quality Education Fund to support schools to employ professionals to run instrumental groups, school bands and orchestras. Nowadays, most of the schools have their own choir and orchestra; many schools offer extracurricular instrumental lessons for students. Based on the ‘one athletic/artistic skill for one student (一人一體藝)’ principle, primary school students are expected to learn at least one instrument and join one athletic activity. As many students begin learning piano before they go to primary school, ‘piano’ is not counted as an extra musical skill, which means that piano students have to learn a second instrument when they enter primary school.

Based on the *Guide to the Pre-Primary Curriculum* (CDC, 2006), the overall goals of pre-primary education set out by the Education Commission in 2000 are to nurture children to attain all-around development in the domains of ethics, intellect, physique, social skills and aesthetics according to their own attributes; to develop good habits to prepare them for life; and to stimulate their interest in learning and cultivate positive learning attitudes so that they

are capable of life-long learning, critical and exploratory thinking, innovating and adapting to change (CDC, 2006, p. 18). The guide sets out the objectives of different learning areas including physical development, cognitive and language development, affective and social development and aesthetic development. The objectives of arts education include:

- 1) to allow children to explore different art media and symbols in an aesthetically rich and diversified environment,
- 2) to enrich children's sensory experiences and encourage them to express their thoughts and feelings,
- 3) to stimulate children's creative and imaginative powers and encourage them to enjoy participating in creative works and
- 4) to enhance children's quality of life and foster their interests in life by guiding them to appreciate the surrounding environment (CDC, 2006, p. 20).

The guide does not describe particular curricula for each of the subjects or learning areas. It only states that the classification into different learning areas is not intended to promote teaching by subject or to prepare for this practice being adopted into primary schools; thus, an integrated curriculum across different learning areas offers both education and care for young children. Therefore, there is no fixed curriculum for pre-primary schools in Hong Kong. Basically, either music or athletic activities sessions lasting 20–25 minutes are scheduled daily. According to the guide, children will learn to express their emotions and feelings through the arts, and thus gain a sense of satisfaction. Children's aesthetic sensitivity, imagination, creativity and communication skills should be cultivated through the appreciation and creation of art, balanced and diversified arts activities such as music, drama, dance and visual arts in pre-primary education. However, there are no basic requirements for kindergarten teachers' musical abilities or relevant qualifications, implying that kindergarten music teachers need not be professional music teachers.

Hong Kong parents tend to send their child to extracurricular activities to explore their interests at the pre-primary stage because children have more leisure time at that stage. Parents' preference for activities is mainly non-academic, such as music (instrumental lesson or music play group) and arts (drawing); their purpose is to let their children explore their different interests. There may be parents think that it is too early and too demanding to send children to extracurricular activities at this stage. However, a survey showed that Hong Kong parents recognise the benefits of extracurricular music lessons, including mental, motor and academic development, and they ranked interest in music, cognitive and affective development as the most important issues (Choi, Tse, So, & Yeung, 2005).

Extracurricular music lessons. Hong Kong parents not only send their children to music lessons but to various playgroups, including drama, dancing, singing, language, chess, swimming and drawing. A survey by the Hong Kong Committee for UNICEF in November 2014 showed that more than 90% of the surveyed parents had signed their children up for extracurricular activities (UNICEF, 2014). Parents want their children to learn extra skills, interact with peers and learn social skills and communication skills via group lessons. As mentioned, 'piano' is not counted as a special musical skill in school interviews, and parents think that piano playing is a 'must-learn' skill; therefore, piano and music lessons are very popular extracurricular activities in Hong Kong. In 2017 and 2018, there were over 129,700 and 126,370 enrolments for the Hong Kong School Music Festival respectively (Hong Kong School Music and Speech Association, 2019), which represents approximately 18.65% of ordinary primary and secondary day school students (Education Bureau, 2016). The number of participants illustrates that many children have the musical skills to participate in this event, and it is probably the case that the majority take extra music lessons. Most primary and secondary schools in Hong Kong have school choirs and orchestras or bands – students who have good musical abilities are asked to join their school music activities. Students who join

their school choir, orchestra or school band can get extra credit (marks) in their school music exam. Some schools will organise after school music lessons, including vocal (singing), woodwind, strings and brass instruments for students. Students are expected to take at least one instrumental lesson, and instrumental performance is included in the school music exam. The Chinese University of Hong Kong conducted a phone survey in 2007; the interviewees were 706 Hong Kong parents with children under 18 years old, the data showed that only 8.6% of these parents did not offer financial support for their children's musical interests (The Chinese University of Hong Kong, 2007). Hong Kong parents have different expectations of the benefits of these music lessons for their children, and they send their children to extra music lessons including instrumental lessons for different reasons. Firstly, social value is attached to music education in Hong Kong, and parents think that their children will become uncompetitive if they do not take extra music lessons. Secondly, most band-one primary or secondary schools recognise music and sports as a special extra skill. Thirdly, parents want their children to enjoy the fun of music and for music-making to be their children's lifelong hobby (Choi, Tse, So, & Yeung, 2005). Leung and McPherson (2010) also claimed that secondary students took instrumental lessons outside of school because parents and students had a utilitarian view of education – they saw it as a means to financial success. However, Law and Ho (2009) have found that parents' support decreased when their children grew up, especially when their children entered secondary school. The reason for this is that by then, parents expected high academic achievement rather than achievement in music – in order to have their children focus on academic learning, parents may let them quit extra music lessons. In the past, children started to learn piano at the age of four in Hong Kong. Nowadays, parents want their children to start as early as possible – some will start at three, and some will join music play groups at the age of two or even younger. As music is the basic requirement of the band-one schools; thus, parents may choose music lessons as

their children's first extracurricular lesson. In Hong Kong, not only children from middle class and wealthy families join extracurricular activities, even working class and poor families parents also try to send their children to extracurricular activities, they will search for small-scale schools and studios (EDUkids, 2019). Some local organisations such as the Hong Kong Federation of Trade Unions (HKFTU) and the Music Office –Leisure and Cultural Services Department of the HKSAR also offer music training programmes and music activities for children and adolescents, the lesson fee will be cheaper than the market price.

Music Participation and Children's Development

Several studies have examined the musical and non-musical benefits of music participation in young children. Hallam (2010) has reviewed the benefits on children's perceptual and language skills, literacy, numeracy, intellectual development, creativity, social and personal development, physical development, health and well-being. Other researchers and educators suggested that music participation enhanced children's self-efficacy, self-esteem and self-concept (Anderson & Overy, 2010); ability to concentrate (Camilleri, 2002); improvement in mood, socio-emotional status, behaviour and increased positive participation (Anderson & Overy, 2010; Devroop, 2012; Woodward, Sloth-Neilson, & Mathiti, 2008); positive identity (Baker & Homan, 2007; Woodward et al., 2008); increased knowledge of different musical styles and genres (Baker & Homan, 2007; Henley, Caulfield, Wilson, & Wilkinson, 2012; Woodward et al., 2008); positive social behaviours, confidence and self-esteem and capacity to engage in and persist with learning tasks (Barrett & Baker, 2012; Henley et al., 2012); and social skills (Blandford & Duarte, 2004). Further, research findings have shown the positive effects of music engagement on children's working memory, self-control, cognitive flexibility and cognitive processing skills (Bigand & Poulin-Carronnat, 2006; Gaab et al., 2005; Ho, Cheung, & Chan, 2003; Jones & Estell, 2007; Ki, 2004;

McClung, 2000; Patel & Iverson, 2007; Schellenberg, 2003, 2006; Tallal & Gaab, 2006; Thompson, Schellenberg, & Husain, 2004) and their psychosocial development (Barrett & Smigiel, 2007; Hallam, 2010; O'Neill, 2005, 2006; Saarikallio & Erkkila, 2007; Saunders, 2010). Recent studies have proven the benefits of school-based music activities on the social inclusion of young migrant groups and their new communities. Odena (2010) suggested that music education projects were effective tools to handle prejudice amongst adolescents living in divided communities. Hesser and Heinemann (2010) claimed that music could help to heal individuals and groups with emotional and physical problems. Marsh (2012) has proven that school-based music activities facilitate cultural maintenance, cross-cultural transmission, verbal and non-verbal communication, interpersonal connections, social cohesion and student empowerment.

These studies provide evidence for the effects of music learning on children's personal development such as social skills, academic achievement, cognitive domains and spatial abilities, psychological and personality development, perceptual and language skills, intelligence development and general attainment (Hallam, 2010; Schellenberg, Kathleen, Corrigan, Sebastian & Malti, 2015). However, most of the studies and findings are from Western countries, which may not be applicable to the context of Hong Kong. Findings from Asian regions in the 21st century include Yun and Kim (2013), who reported that primary students showed an average increase in self-expression, self-efficacy and social skills after attending an Orff approach music program (a weekly one-hour lesson) for 16 weeks. However, the samples were limited to 46 children from low-income families in South Korea; the results may not be the same if the experiment were repeated with participants from different socioeconomic strata as children from lower socioeconomic status families have higher chance to have impaired social and emotional skills (Donkin, Roberts, Tedstone & Marmot, 2014). Lau (2008) found that singing and musical games in kindergarten music

lessons cultivated Hong Kong pre-primary children's social development and skills. In this study, the specially designed music lessons were given to upper-level (K3: the third year in kindergarten) children during school time and were taught by the kindergarten teacher. The teacher conducted a 30-minute weekly lesson for eight consecutive weeks, participants were 20 students (aged five to six years old) at a kindergarten in Hong Kong Island. However, the sample size was small, and the duration of the intervention was only eight weeks – a long-term program may explore the long-term effects of music activities on children.

As mentioned (p.16), over 90% of Hong Kong parents have signed up extracurricular activities for their children (UNICEF HK, 2014). Moreover, in the survey conducted by the Chinese University of Hong Kong in 2007 showed that 91.4% of the responded parents offered financially support for their children's musical interests (The Chinese University of Hong Kong, 2007). However, research on the effects of extracurricular music activities on Hong Kong children is sparse. Although Hong Kong parents are so eager to have their children joining the extracurricular music activities, they may not aware the benefits of music education holistically. Furthermore, research on the effects of participation in music on social and personal development, such as self-esteem and social skills, has received less attention than the impact on intellectual development and attainment (Costa-Giomi, 2004; Gill & Rickard, 2012; Hallam, 2010).

Statement of the Problem

Hong Kong parents concern about their children's future, students took music / instrumental lessons outside of school because they had a utilitarian view of education (Leung & McPherson, 2010), and in hopes that these will give their children a competitive edge, tap into their potentials bring them more advantages besides academic success (UNICEF HK, 2014). In this context, music has an extrinsic value. The fact that music

activities help to develop non-music skills would become attractive and important to different stakeholders. Therefore, there is a need to explore the effects of extracurricular music participation on preschool children's social skills.

Purpose of the Study

The purpose of this study was to examine the effects of extracurricular music participation on preschool children's social skills in Hong Kong.

Significance of the Study

The results of this study will indicate the effects of music participation on preschool children's social skills in Hong Kong. Findings will confirm whether relevant theories and findings from Western countries are applicable to Hong Kong. Furthermore, it will illuminate the relationship between extracurricular music participation and preschool children's social skills. Education programme constructors both in and outside of school can take this into account when designing music programmes for young children's social skills development.

Research Questions

1. Are there any significant effects of extracurricular music training on preschool children's social skills in Hong Kong?
2. Are there any significant differences in the effects on preschool children's social skills between group music lessons and individual music lessons in Hong Kong?
3. Are there any significant differences in the effects of group music training and non-music group training on preschool children's social skills in Hong Kong?

Summary

Over 90% of Hong Kong parents send their children to extracurricular music activities.

Previous studies have examined the relationship between music participation and children's development, including social skills. However, research on the effects of extracurricular music lessons on Hong Kong preschool children's social skills is rare. In Hong Kong context, music has an extrinsic value, the fact that music activities help to develop non-music skills would become important and attractive to different stakeholders. This study examined the effects of extracurricular music participation on preschool children's social skills.



CHAPTER 2: LITERATURE REVIEW

Introduction

Chapter Two provides a review of the literature relevant to the study. It begins with an introduction to the overall development of preschool children and the role of music education in Hong Kong. The effects of music participation on academic achievement, cognitive and perceptual skills, personal development and creativity are examined. This is followed by some conceptual material on social skills, whereafter the relationship between music participation and social skills is reviewed. A summary of the effects of music participation on children's development, including intellectual, social and personal development and the interrelations between those skills, closes the chapter.

The development of preschool children

Children aged between three and five years old are commonly referred to as preschool children. They acquire skills and knowledge through daily experience, imitation and play, they want to become more independent and build themselves up as individuals, eager to express their feelings and needs as they have learned more vocabulary and have better language skills as compared with their infant stage (Bastable & Dart, 2008). They begin to develop a larger vocabulary to express their thoughts, feelings and needs more clearly. In general, preschool children have well developed conversation skills and they are able to use gestures and objects to help them to convey their messages and thoughts. The advancement of language skills represents the development of cognitive abilities. As they grow older, children become more curious and their thinking becomes more complex, as they also start to develop imagination and fantasy. They like to pretend to be adults or a character whom they like, such as a teacher, doctor, parent, or objects such as aeroplanes, robots or cars (Berk, 2013; Hutchinson & Oliver, 1993; Maughan & Little, 2010; Mittal, 2004; Salkind, Thomson

Gale, Gale Group, & Gale, 2002; Santrock, 2009). Preschool children think in terms of tangible materials, believe that everyone thinks in the same way as themselves, are perceptually bound and make judgements based on how things look (Morrison, 2009). Furthermore, their motor, emotional, cognitive and perceptual skills are developing as they try to gain inner control. By the age of four years old, children can modify their conversation to fit the age, sex and social status of the person they are talking to, they begin to see the viewpoints of others, there is evidence that social skills emerge much earlier on that previously thought (Ilari, 2016; Tomasello & Carpenter, 2007). However, preschool children may have trouble with logical and theoretical thinking because their knowledge is based on their perception (Berk, 2009, 2013; Morrison, 2009). Preschoolers usually start to develop self-conscious emotions as they start evaluating themselves. Sometimes they can be aggressive, but they enjoy being with peers and want to make friends, they want to feel important and be praised for their performance or achievements. They start to develop friendships with their peers at the preschool stage, which is crucial for positive social and emotional development (Anthony, Glanville, Naiman, Waanders & Shaffer, 2005; Epstein, 2009; Sassu, 2007). Emotional understanding is a child's ability to express his or her emotions appropriately and to correctly understand other people's emotions. Children with high levels of emotional understanding can cope with their own or other people's emotions in a way that creates positive social interactions (Ellis, 2008; Findley, Girardi, & Coplan, 2006; Sheridan, Knoche, Edwards, Bovaird, & Kupzyk, 2010; Stacks & Oshio, 2009; Zero to Three, 2010). Moreover, social experiences are important to preschool children's moral understanding; they will build and learn social skills such as compromise, sharing, taking turns, cooperation through activities and play which encourage them to plan and work together (Berk, 2009, 2013; Bruce, 2005; Ebbeck, 1991; Morrison, 2009; Smyser, 1996).

The role of music education in Hong Kong

Music education is part of arts education in schools in Hong Kong. Children's creativity can be nurtured through arts as artistic activities engage children's imaginations, aesthetic perceptions, critical thinking, divergent thinking and problem-solving skills (Bachner-Melman, Dina, Zohar, Constantini, Lerer, Hoch, Sella, Nemanov, Gritsenko, Lichtenberg, Granot & Ebstein, 2005; Csikszentmihalyi, 1990; de Manzano, Cervenka, Karabanov, Farde, & Ullen, 2010; Kirschner & Tomasello, 2010). Children are then able to complete tasks such as music or art pieces with self-discipline, self-motivation, perseverance, self-efficacy and in a self-regulatory way (Bandura, 1997; Schellenberg & Moreno, 2010; Zimmerman, 2000). Children also learn cooperation, commitment, compromise and collaboration through participating in groups in art activities such as dance, drama, choir and orchestra (Clift & Hancox, 2001; Hallam & Prince, 2000; Jeong & Kim, 2005; Kim, 2009; Kirschner & Tomasello, 2009). According to the *Arts Education Key Learning Area Curriculum Guide Primary 1-Secondary 3*, which was published by the Hong Kong Education Bureau in 2002, Arts Education is one of the eight key learning areas in the Hong Kong school curriculum. The other learning areas include Chinese Language Education; English Language Education; Mathematics Education; Personal, Social and Humanities Education; Science Education; Technology Education and Physical Education (CDC, 2002). The main targets of arts education – including developing creativity and imagination, developing skills and processes, cultivating critical responses and understanding arts in context – have been set out in the *Arts Curriculum Guide* (CDC, 2002). Four aims of the arts curriculum are stated clearly:

Firstly, to develop creativity and critical thinking, nurture aesthetic sensitivity, and build up cultural awareness and effective communication. Secondly, to develop skills, knowledge and positive values and attitudes in the arts. Thirdly,

to gain delight, enjoyment and satisfaction through participating in arts-making activities. Fourthly, to pursue a lifelong interest in the arts (CDC, 2002, p.23).

Arts activities in Hong Kong schools include music, visual arts, media arts, dance, drama and other art forms. Through these learning activities, the four main targets and overall aims should be achieved. Schools are encouraged to provide 10-15% and 8-10% of lesson time in the arts for primary and junior secondary students respectively. Moreover, students' generic skills such as creativity, communication skills and critical thinking skills should be cultivated through arts education in schools (CDC, 2002).

Claiming to have Hong Kong students well prepared for rapid global changes, the *Basic Education Curriculum Guide Primary 1-6* was updated in 2014, whilst the *Secondary Education Curriculum Guide* and the curriculum guides for the key learning areas were updated in 2017 by the Curriculum Development Council (CDC). The updated *Arts Education Key Learning Area Curriculum Guide* is for Primary One to Secondary Six, different from the previous one, the senior secondary education has been included in this updated curriculum guide. The suggested time allocation for arts at primary to junior secondary remains the same as before, with a recommendation that each of the elective arts subjects has 10% to 15% of the total lesson time over the course of three years in senior secondary level (CDC, 2017). Clear suggestions for the arts activities in schools at different stages are listed in this guide book. In this updated version, the four main targets and aims of arts education remain mostly the same as in the previous curriculum guide, with only the development in personal skills through arts education in schools having been increased. Nine generic skills are expected to be cultivated through arts education in schools. These skills are grouped into three categories:

“i). Basic Skills: Communication skills, Mathematical skills, Information Technology

skills.

ii). Thinking Skills: Critical Thinking skills, Creativity, Problem-solving skills.

iii). Personal and Social Skills: Self-management skills, Self-learning skills,

Collaboration skills” (CDC, 2017, p.13).

There is no official arts curriculum for kindergarten in Hong Kong. A *Kindergarten Education Curriculum Guide* was issued by the Hong Kong Curriculum Development Council in 2006. It sets out the aims and goals of the Hong Kong pre-primary education curriculum as:

Firstly, to nurture children to attain all-round development in the domains of ethics, intellect, physique, social skills and aesthetics, so as to prepare them for life. Secondly, to stimulate children’s interest in learning and cultivate in them positive learning attitudes, in order to lay the foundation for their future learning (CDC, 2006, p.17).

According to this guide, “arts activities at pre-primary level include appreciation, creation and participation in music, drama, dance and visual arts, expecting that children’s aesthetic sensitivity, imagination, creativity and communication skills can be cultivated through arts activities in kindergarten” (CDC, 2006, p.35). The suggested time allocation for Physical Fitness / Arts /Music is 60-105 minutes per day for full-day kindergarten and 45-60 minutes for half-day kindergarten. The *Kindergarten Education Curriculum Guide* was updated by the Hong Kong Curriculum Development in 2017, before which, only a Chinese version had been issued. The aims and goals of pre-primary education are not very different from those in the old version. However, it states clearly that the kindergarten curriculum education framework should cover three interrelated components including “Values & Attitudes”, “Skills” and “Knowledge” while building a coherent curriculum system for primary and secondary education (CDC, 2017). Aesthetic sensitivity remains as one of the

five domains in the curriculum. Through arts activities in kindergartens, children should get satisfaction, develop lifelong learning attitudes and positive personalities, learn to express their emotions, ideas and feelings, cultivate their imaginations and creativity, and have their cognitive abilities promoted (CDC, 2017).

Music participation and children's development

Music participation and academic achievement. During the 1990s, researchers found positive links between music instruction and academic performance (Catterall, Chapleau, & Iwanaga, 1999; Fitzpatrick, 2006). Cutietta (1995, 1996a, 1996b, 1996c) summarised selected studies on the relationship between music instruction and achievement in mathematics and language. Findings of studies showed that listening to music, even in passive circumstances, for instance, listening to background music, might improve academic achievement (Costa-Giomi, 1999; Schreiber, 1988; Turnipseed, 1978; Wagner & Menzel, 1977). Graziano, Peterson & Shaw (1999) and Rauscher, Shaw, Levine, Wright, Dennis & Newcomb (1997) believe that music learning enhances the cognitive abilities required in mathematics tasks. In Gardiner, Fox, Knowles and Jeffrey's study (1996), children were given Kodály training as well as visual arts instruction for seven months and their reading scores were found to have shown greater improvement than those of the control group. Bilhartz, Bruhn, & Olsen (1999) studied the relationship between participation in a structured music curriculum and the cognitive development of four- and five-year-old children; about half of the 71 children participated in a 75-minute weekly parent-involved music curriculum, "Kindermusik for the Young Child Year 1 Pilot Program" (Swears, 1998) for 30 weeks; there was significant obtainment for the music group on the music test and the Stanford-Binet Bead Memory subtest (assesses how well the subject recalls the facts and objects) at the end of the study. However, Catterall and Rauscher (2008) argued that this was likely to be the result of

benefits from visual-spatial intelligence and there might also be effects related to the development of language and literacy skills. In Schellenberg's study (2004), in which data were collected from 132 six-year-old children, the findings showed that children who received music lessons (either standard keyboard or Kodály voice) for 36 weeks had reliably larger increases in full scale intelligence quotient (IQ) than the control groups which received either instruction in a drama group or no lessons.

Different studies have been conducted to examine the effects of music participation on the academic achievements of primary and secondary students. Haley (2001) investigated the relationship between music participation (band or orchestra) and academic achievement. The participants were 4th grade students, with 70 students divided into three groups: children studying an instrument prior to the introduction of band or orchestra in 4th grade (Group A), children just beginning the study of an instrument (Group B), and children with no experience in instrumental instruction (Group C). The academic achievement scores obtained at the beginning of the year were compared to the academic achievement scores obtained at the end of the school year, the findings showed that students who had started to learn to play an instrument before 4th grade had scored higher in mathematics tasks, spelling, word identification, and phonemic awareness than the other two groups. Johnson and Memmott (2006) examined the relationship between participation in contrasting school music programmes and standardised test scores; participants were 1119 elementary students (3rd and 4th grade) and 3620 secondary students (8th and 9th grade) from the South, East Coast, Midwest and West Coast of the United States. Students' academic achievement at comparable schools with music programmes of different instructional quality was compared. The data showed that students in exemplary music programmes scored higher on both English and mathematics standardised tests than those who did not have such a high quality of musical instruction, however, the effect sizes were small. Data from the secondary schools

showed that students in music programmes, including both high quality instructional programmes and deficient instrumental programmes, scored higher in both English and mathematics than those in no music classes or in deficient choir programmes, but the effect sizes were small too. Cabanac, Perlovsky, Bonniot-Cabanac, & Cabanac (2013) found that students studying music achieved better grades in all subjects than those who did not study music. The study was carried out in a secondary school of the province of Quebec Canada; the participants were students who had achieved high grades in their primary school years and belonged to the International Baccalaureat programme in this secondary school. After taking music as a compulsory subject in the first two years in this secondary school, music courses were optional from the 3rd to the 5th year; students then had to choose one course from plastic art (painting and sculpture), drama and music. The mean grades for the academic year 2011–12 were recorded and compared. Participants were 196 Primary Three students, 184 Primary Four students and 180 Primary Five students. Analysis showed that the mean grades of the students that had chosen a music course in their curriculum were higher than those who had not chosen music as an optional course in each of the school levels (from the 3rd year to the 5th year). Mónico & Luiz (2014) concluded that musical training is a significant predictor of academic learning outcomes after controlling for socioeconomic status, intelligence and motivation. The sample size in this study was 110 students in the 7th grade from 12 schools in similar urban areas in Portugal; 62 students had studied music continuously for six years or more while the remainders were non-music students. School marks were collected at two time points, once in their 7th grade and again at the end of their 9th grade. The findings of this study confirmed that music students performed better at school than non-music students in general.

Although there are findings showing the positive linkage between music participation and academic achievement, however, the findings are inconsistent. Legette (1993) found no

difference in intellectual self-concept between elementary students who participated in musical activities and students in a control group. Harland, Kinder, Lord, Stott, Schagen & Haynes (2000) found insufficient evidence that participation in arts courses (indirect experience) supported general academic achievements in their qualitative examination of national test scores in Britain. In Vaughn's (2000) meta-analysis on 20 correlational studies, a significant positive relationship between music participation and mathematics was reported, with a sample size ranging from 34 to 648,144. Six studies examined primary-school-aged students from 3rd to 6th grades, 13 studies examined high school students and one study examined college students. However, Vaughn argued that other factors, such as students' socioeconomic background, family background and academic level of schools, had not been ruled out. Six experimental music instruction studies showed that music study may have a positive relationship to score increases in mathematics achievement, with a sample size ranging from 28 to 128, samples being preschool students or primary school students (Vaughn, 2000). Vaughn claimed that the improved mathematics performance of the experimental group might be caused by the combination of music instruction and spatial-temporal mathematics instruction. In the 15 listening studies (indirect experiences background music studies), which involved between 10 and 320 students, six studies involved primary school students, three studies involved high school students and six involved college students. Vaughn (2000) reported that "the meta-analysis results show that playing music in the background while students are taking math tests has only a small positive effect" (p.163).

In sum, there is evidence showing that there are positive effects of music participation on academic achievements, however, results have been inconsistent (Shin, 2011). The relationship between music lessons and intelligence is complex (Schellenberg, 2011) and personal characteristics such as work drive, school anxiety, interests and ability

self-perceptions may also affect academic achievement (Lounsbury, Sundstrom, Loveland, & Gibson, 2003; Spinath, Freudenthaler, & Neubauer, 2010).

Music participation and cognitive and perceptual skills. In Hurwitz, Wolff, Bortnick and Kokas's (1975) study, the effects of music on children's intellectual development were examined. In this study, the experimental group of first-grade students received Kodály music lessons for five days each week while a control group did not. After seven months, the experimental group scored significantly higher than the control group on sequencing tasks, spatial tasks and reading than the control group, and this result held for two academic years. In Rauscher, Shaw, & Ky's study (1993), participants who listened to recordings of Mozart's compositions had outstanding spatial abilities compared to those who sat in silence or listened to relaxation instructions. The finding, known as the "Mozart effect", was reported widely and, although the effect was found to be short term (lasting 10-15 minutes) and the participants were university students, the news drew public attention. Production of music recordings of Mozart's music and other music designed to make infants smarter became a popular industry. Flohr, Miller and deBeus (2000) executed an experimental study; participants were children aged four to six, children who had received musical training produced Electroencephalography frequencies associated with increased cognitive processing. Researchers concluded that there were positive effects of music participation on cognitive domains and spatial abilities (Costa-Giomi, 1999; Schellenberg & Weiss, 2013). Winner (2005) examined the effects of music training on brain development and cognition in young children from five to seven years old; the findings showed that children who have learned to play an instrument for a year showed improvement in auditory discrimination scores. Schellenberg & Hallam (2005) believe that positive benefits of music listening on cognitive abilities are most likely to be evident when the music is enjoyed by the listener. However, Husain, Thompson, & Schellenberg (2002) argued that the rationale of the

data was inaccurate; effects only existed when participants have received the same intervention or treatment repeatedly, so they believe that the available evidence favours an explanation that we call the “arousal-mood”, which then influences performance on various cognitive skills. Schellenberg (2011) examined the IQ and five measures of executive function between musically trained and untrained nine- to twelve-year-old children. The findings showed that IQ and executive function were correlated: the musically trained children had higher IQs than the untrained children. However, Schellenberg (2011) claimed that the link between music training and executive function was negligible because children with higher IQs were more likely than those with lower IQs to take music lessons, and to perform well on a variety of tests of cognitive ability.

It has been reported that music participation, especially the production of the tones of musical scales, results in an increase in neuronal representation in the long term (Pantev, Engelien, Candia, & Elbert, 2003). Barrett, Ashley, Strait, and Kraus (2013) found that playing a musical instrument activates changes in the brain stem as well as the cortex. Peynircioglu, Durgunoglu and Uney-Kusefoglu (2002) found that preschool children with higher levels of musical capability had a greater ability to control speaking tones, which has been proved by studies of the function of human brains in producing sound (Gaab, Gaser, & Zaehle, 2005). Anvari, Trainor, Woodside, & Levy (2002) examined the relationship between phonological awareness, music perception skills and reading skills of preschool children. The sample size was 100 children, half of them four years old and the other half five years old, who were recruited from schools in the Hamilton-Wentworth region of Canada. Findings revealed that musical skills have a significant relationship with both phonological concepts and the development of reading ability. In Gromko’s study (2005), 43 kindergarten children who had participated in music instruction for four months showed greater improvement in phonemic perception than the control group. A study by Magne, Schon, & Besson (2006)

investigated the relationship between music learning and language perception when 26 children were recruited from the same elementary school; half of them were musicians with three to five years of musical training while half of them were seven- to nine-year-old non-musicians. All the musician children played an instrument while the non-musician children participated in extracurricular sports activities. Behavioural data and recorded event-related brain potentials (ERPs) showed that pitch processing in music was likely to be earlier than in language, according to the neural basis of development of prosodic and melodic processing; thus they concluded that music lessons benefit children's linguistic abilities. The most important conclusion to be drawn from these results is that there is behavioural evidence for a common pitch processing mechanism in language and music perception.

In short, it has long been argued that musical training affects children's listening skills and cortical functioning of linguistic pitch patterns (Magne, Schon, & Besson, 2006; Schön, Magne, & Besson, 2004). There is evidence that musical ability is a predictor of children's perception and production of delicate phonetic differences in a second language and the reading ability in their native language (Anvari, Trainor, Woodside, & Levy, 2002; Slevc & Miyake, 2006).

Music participation and personal development. Music, acting as a mood regulator helping to maintain a sense of belonging and community, is a source of support when young people are feeling troubled or lonely (Zillman & Gan, 1997). A person with high self-efficacy will exhibit certain positive personal qualities, such as persistence, use of varied strategic approaches, and high achievement (Zimmerman, 2000). There is strong evidence that music education has positive effects on students' emotions, beliefs, attitudes, self-esteem, sense of well-being and behaviours (Kocabaş, 2001; Rickard & McFerran, 2012; Schellenberg, Mankarious & Desteno, 2012), and those effects are related to students' academic and social

activities (Davison, 2006; Schellenberg & Moreno, 2010). Resnicow, Salovey and Repp (2004) suggested that determination of emotion in music performance employs some of the skills that constitute daily emotional intelligence. There is some evidence of the positive link between music participation and empathy in preschool and primary school children (Kalliopuska & Ruokonun, 1986, 1993; Kalliopuska & Tiitinen, 1991; Rabinwitch, Cross & Burnard, 2013) and teenagers (Hietolahti-ansten & Kalliopuska, 1990). In Kokotsaki and Hallam's study (2007), 78 music students from two English universities were asked to report the effects of music participation on them, and findings showed that active involvement in music helped those students to develop life skills such as discipline and concentration, to build up self-esteem and to gain satisfaction, to develop personal identity, to increase self-confidence and intrinsic motivation. In Ritchie, Laura, Williamon & Aaron's study (2011), participants of which were 404 primary school students, the result revealed that children who engaged in music learning including learning an instrument or singing scored higher in self-esteem than those who did not participate in music learning activities; furthermore, the results showed that prior experience with instrumental tuition was the strongest predictor of music self-efficacy for learning. Eisenberg, Spinrad, & Smith (2004) believe that self-regulation involves modulating feelings, thoughts and behaviour and is associated with academic achievement and social competence. A study by Moffitt et al. (2011) reported that self-regulation in childhood predicts health, financial stability and educational attainment into adulthood.

In sum, there are findings showing that music participation has positive effects on students' emotions, beliefs, attitudes, self-esteem and sense of well-being, belonging and community (Kocabaş, 2001; Rickard & McFerran, 2012; Schellenberg, Mankarious & Desteno, 2012). Music participation helps students to evolve life skills such as discipline and concentration, self-efficacy and self-regulation for learning (Ritchie, Laura, Williamon &

Aaron, 2011) and provides a relaxation outlet during demanding study periods. These effects link with students' academic achievement, social competence and self-regulation (Davison, 2006; Schellenberg & Moreno, 2010).

Music participation and creativity. Creativity can be interpreted as part of our intelligence, a way of thinking or making sense of life, or even linking ourselves with the eternal (Taverner, 1999). Laland, Odling-Smee and Myles (2010) believe that creativity requires the presence of several traits including intelligence, persistence, flexibility, openness and the ability to think in a particular manner. It has been proven that music enhances creativity (Burns, 1988; Cleall, 1981; Crowe, 1987; Hollander, 1988). Studies on the relationship between music and creativity can be traced from the 1960s: Simpson (1969) found that music students scored higher on a number of components of Guildford's tests of creativity. There are well-reasoned arguments from the 1980s showing that music evidently enhances creativity (Burns, 1988; Cleall, 1981; Crowe, 1987; Hamann, Bourassa & Aderman, 1990; Hollander, 1988). Hamann, Bourassa, and Aderman (1990) reported that the scores of high-school music students and music majors in university were higher than the non-music students on tests for creativity, especially those with more than 10 years of music education. Reports on the arts have emphasised their importance in developing a range of transferable skills, including those related to creativity and critical thinking (Kokotsaki & Hallam, 2007). Studies of the biological background of creativity and insight in music including composing (Petsche, Kaplan, von Stein, & Filz, 1997), completing an incomplete melody (Brown, Martinez & Parsons, 2006) and improvising musical pieces (Berkowitz & Ansari, 2008) via neuroimaging have shown that different brain regions, including the medial prefrontal areas, premotor and the primary auditory cortex, are linked to musical creativity such as improvisation and composition (Dietrich and Kanso, 2010). Although findings have shown that there is a positive relationship between music education and creativity, however, the

benefits for creative skills depend on the kind of musical experience; the effects are stronger if the musical experience is creative (Hallam, 2015). This belief is supported by Koutsoupidou & Hargreaves (2009), who examined the performance of six-year-old children using Webster's 'Measure of Creative Thinking in Music' (Webster, 1994). There were 25 Primary One students randomly assigned to the control group and the experimental group, with 13 in the control group and 12 in the experimental group. Students in the experimental group were taught improvisation through different activities including singing, movement and playing on instruments in their weekly music lessons, whilst the control group did not experience any improvisation activities. After six months, data revealed that children who were taught improvisation in music lessons scored higher than those in the control group.

In short, music creativity is a process of imagination, divergent thinking and convergent thinking, which is similar to creative thinking (Paynter, 2000; Swanwick & Franca, 1999). Creative activities in music include different aspects such as composing, arranging, improvising and conducting; these activities can be considered as a part of musical talent (Levitin, 2012).

Music participation and social skills

Social skills. There are different definitions and theories about social skills from different studies and articles. According to Gresham & Elliott (1990), social skills can be explained as appropriate behaviours which allow a person to have interactions with others and to get away from unpleasant situation or interactions with others. Phelps-Teraski & Phelps-Gunn (1992) believe that social skills represent the capacity to start and keep up social interactions and relationships and they have named these skills as social pragmatic skills. In general, social skills include the skills we use to communicate and interact with others, including verbal and non-verbal interactions, starting and maintaining a conversation,

listening to others, making eye contact, body posture, keeping proper social distance, physically approaching peers, social problem-solving, engaging in play with partners, turn-taking, semantic and syntactic cohesion and learning-related skills such as listening, maintaining attention and following directions (Gresham, 1997; Kaczmarek, 2002; McClelland & Morrison, 2003; McClelland, Morrison, & Holmes, 2000; Missall & Hojnoski, 2008; Spence, 2003; Timler, Olswang, & Coggins, 2005). Social skill is a compounded set of skills consisting of communication, problem-solving and decision making, assertion, peer and group interaction, which are skills that are indispensable for daily life. These skills are related to many areas of functioning in a child's life, such as good treatment and respect from parents (Boivin & Bégin, 1989; Danielson & Phelps, 2003; Putallaz & Heflin, 1990); self-esteem and overall happiness and quality of life (Rubin, Booth, Rose-Krasnor, & Mills, 1995), academic success, peer relationships, family relationships, support for future emotional skills development, self-management of career and extracurricular or leisure activities (Kolb & Hanley-Maxwell, 2003; Lori, 2009; Malecki & Elliott, 2002; Welsh, Parke, Widaman, & O'Neil, 2001). Preschoolers who have good communication skills have better peer-to-peer interactions and, moreover, they are more capable of using language in different circumstances and for different intentions (Forde, Holloway, Healy, & Brosnan, 2011).

Deficiencies of children in their social development are the result of their not acquiring positive social behaviour in their daily life, or because they do not have sufficient experience to show and execute positive behaviour (Webster-Stratton, 1999). There have been studies and research that have proved that deficiencies in social skills have negative effects on children's personal development. Gresham & Elliot (1993) found that children with poor social skills have high crime rates, a high possibility of childhood psychopathology and adult mental health issues. Ladd, Kochenderfer, & Coleman (1997) state that children who have difficulty paying attention, following teacher instructions, getting along with others and

controlling negative emotions will do less well in school. Those children are more likely to be rejected by peers and to get less positive feedback from teachers, which thus results in off-task behaviour and receiving less attention from teachers (Shores & Wehby, 1999). Longitudinal studies have proved not only the connection between behavioural and social difficulties and academic achievement, but also the link between lower social skills in children to increased possibilities of depression, conduct problems, apprehension and antisocial behaviour (Eisenberg et al., 2005; Green, Rockhill, & Burrus, 2008; Lane, Pierson, & Givner, 2004). Children with insufficient social skills will misunderstand social situations, may not be able to give appropriate responses during conversations, have difficulty in making friends and keeping friendships and have trouble understanding that their peers have rejected them during play (Laws, Bates, Feuerstein, Mason-Apps, & White, 2012). A child who cannot understand peers' messages will experience a decrease in confidence and motivation, which may lead to physical hostility, withdrawal and a negative peer relationship and recognition (U.S. Department of Education, 2002). Moreover, this kind of child will have difficulty in problem-solving, listening and conversational exchange, have problems with expressing their feelings and have a decreasing interest in interacting with other children (Law, Plunkett, & Stringer, 2012).

Social skills can also be interpreted as learned skills that enable an individual to interact with others and children need all these skills to meet the expectations of other people (Gresham, 1997; Westwood, 2007). Many children acquire these skills naturally through observation and interaction with their parents, caregivers, teachers and peers. Craig (2009) believes that preschool-age children have already understood the basic concept of sharing, respect and patience and thus they can start learning proper social behaviour and social problem-solving skills, which are supportive in building and maintaining interaction with others. However, some children face difficulties in acquiring these skills or performing

adequate social behaviours in different situations (Frey, Elliott & Kaiser, 2014) as researchers believe that family's socioeconomic status may affect children's social skills development (Donkin, Roberts, Tedstone & Marmot, 2014). Furthermore, according to Okukura & Usui (2010), parents' social skills might have effects on the sociability of their children. Therefore, there are different strategies and intervention programmes that target social skills for preschoolers (Elliott, Roach, & Beddow, 2008; Joseph & Strain, 2003). Evidence shows that artistic activities in a community can help children to understand the realities of life; these activities also allow children to express their complex feelings, foster well-being, improve their health and validate individual and collective identities. Research and studies have been executed by social workers on the social impact that the arts can have, such as on employment, crime rates, self-esteem, educational performance and participation and social inclusion; the findings reveal that conduct problems among children can be decreased by improving their social skills (Eyberg, Nelson, & Boggs, 2008; Steiner & Remsing, 2007). Gander & Gardiner (1998) believe that individuals learn values, behaviours and faith through the process of building awareness of social affairs, social standards and duties of group life; this development ensures that they will integrate into the community. Lo & Matsunobu (2013) suggested that students' imaginations can be cultivated through participation in arts activities, which allow children to see the world from different angles.

In sum, social skills are a set of skills which facilitate children's social interactions and relationships, capability of task completion (Kaczmarek, 2002; McClelland & Morrison, 2003; McClelland, Morrison, & Holmes, 2000; Missall & Hojnoski, 2008; Spence, 2003; Timler, Olswang & Coggins, 2005), self-esteem, sense of well-being (Rubin, booth, Rose-Kransnor, & Mills, 1995), conduct, health (Eisenberg et al., 2005; Ladd, Kochenderfer, & Coleman, 1997), awareness of social stimulants, norms and obligations of group life (Laws, Bates, Feuerstein, Mason-Apps, & White, 2012) imagination and how they see the world (Lo

& Matsunobu, 2013). Although some children can learn social skills naturally, some cannot. Intervention programmes play a role in children's social skills development, especially in young children. Artistic activities allow children to express themselves, learn to understand reality and gain self-satisfaction. Furthermore, artistic and aesthetic activities would help children to learn to transfer their feelings and thoughts to each other (Hardy, 2011). Yazıcı (2017) reviewed of the theories and studies on the associations between art activities and children's social skills and her study (2017) indicated that art education program had a positive effect on preschool children's social skills.

There are different assessment instruments to evaluate social skills of children: direct observation, behavioural interviews, peer evaluations, psychometric checklists and rating forms completed by caregivers and teachers (Danielson & Phelps, 2003). Various rating scales were developed to evaluate the social skills of preschool and school-aged children from the 1980s: *List of Social Situation Problems* (LSSP; Spence, 1980), *Matson Evaluation of Social Skills for Youngsters* (MESSY; Matson, Rotatori & Helsel, 1983), *Waksman Social Skills Rating Scales* (WSSRS; Waksman, 1985), *Walker-McConnell Scale of Social Competence and School Adjustment* (WMS; Walker & McConnell, 1988), *Social Skills Rating System* (SSRS; Gresham & Elliott, 1990), *School Social Behavior Scales* (SSBS; Merrell, 1993), *Social Attribute Checklist* (McClellan & Katz 1993), *Social Skills Evaluation Scales* (SSES; Avcıoğlu, 2003) and the revision of the SSRS, *Social Skills Improvement System-Rating Scales* (SSIS-RS; Gresham & Elliott, 2008). The *School Social Skills Rating Scale* (Brown, Black, & Downs, 1984) and *Social Behavior Assessment Inventory* (SBAI; Stephens, 1992) are included as criterion-referenced rating scales. The SSIS-RS has been translated into Chinese (SSIS-RS-C). In Cheung, Siu & Brown's study (2017), participants were 567 Hong Kong students from four secondary schools. Cheung, Siu & Brown (2017) concluded that the SSIS-RS-C is a promising instrument for differentiating social skills and

problematic behaviours among students in Hong Kong.

Relationship between music participation and social skills. Findings on the relationship between music participation and social skills can be traced from the 1980s onward. In the USA, the findings of two studies of participation in school bands show the recognised benefits of friendship and relationships (Brown, 1980). There is also proven evidence showing that engagement in USA high school group music activities helps students to learn to support each other, maintain commitment and work together toward group targets (Sward, 1989). Furthermore, there are findings showing long-term success in rehearsals benefit to participants' social skills as interactions usually include disagreement and compromise related to musical issues and collaboration (D'ausilio, Novembre, Fadiga, & Keller, 2015; Phillips-Silver & Keller, 2012; Murningham & Conlon, 1991; Young & Colman, 1979). Findings of studies have revealed that music participation has positive effects on social behaviours, peer interactions, non-verbal expression, self-expression, interpersonal skills, social play, group cohesion and on-task behaviours (Eidson, 1989; Gunsberg, 1988; Humpal, 1991; Reid, Hill, Rawers, & Montegar, 1975; Steele, 1977). Hargreaves, Marshall, and North (2003) noted that “most musical activity is carried out with and for other people ..., it is fundamentally social..., and so can play an important part in promoting interpersonal skills, teamwork, and co-operation” (p.160).

Findings from studies show that music activities can be used to enhance not only personal aesthetic quality of life but also social and leisure skills as music making processes include social features such as cooperation, communication, interactions, collaboration, recognising and supporting each other, responsibility, focus of attention, impulse control and accepting outcomes (Hargreaves et al., 2003; Humpal, 1991; McClung, 2000). In Clift and Hancox's (2001) study of students of a university choral society in the UK, over 80% of the members reported that they had benefitted socially, over 70% benefitted emotionally whilst

nearly 50% reported that they benefitted spiritually; they also claimed that music lessons provided opportunities for them to meet new people, to enhance positive feelings and build up their spirits. The social relationships and the development of faith and respect have been found to be pivotal, with members making friends in the groups, learning cooperation and team work and feeling their value in being part of the group, especially in small groups (Davidson & Good, 2002; Kokotsaki & Hallam, 2007; Young & Colman, 1979). Kokotsaki and Hallam (2007) investigated the effects of music making on music students from two English universities, with 78 students participating in the study. They reported that, through active engagement in music activities, not only had their musical knowledge and musical skills been improved, but also their discipline and concentration, self-esteem, self-confidence and personal skills, which enhanced their intrinsic motivation. Furthermore, music is a kind of relaxation outlet during challenging or stressful study periods. The development of friendships and social life can be improved through participation in extracurricular rehearsals and school show performances; such participation can increase students' confidence, social networks and sense of belonging, despite the time commitment and conflicts with other activities (Pitts, 2007).

There are studies examining the effects of music participation on primary school children's social skills as well as those of college students. In Rabinowitch, Cross and Burnard's study (2012), participants were 52 students from four UK primary schools, aged from eight to eleven years old; 23 students took the "Musical Group Interaction Programme (MGI)", while others were in the control groups (either in the games group or general control group). Both the MGI programme and the games group took a one-hour lesson weekly. After nine months, findings revealed that the MGI programme enhanced children's emotional empathy. Hallam and Prince (2000) believe that participation in arts activities in school enhances students' personal and social development. According to Hallam and Prince (2000),

a study executed by UK peripatetic instrumental teachers who work in schools reported substantial benefits of learning to play an instrument, including the growth of social skills and teamwork, enhancing confidence, self-discipline and a sense of achievement, developing physical co-ordination and gaining a love for and enjoyment of music. In Schellenberg, Corrigan, Dye, and Malt's study (2015), children in 3rd and 4th grade received a weekly 40-minute music programme at school for 10 months while the control group did not. The number of participants was 84, with 38 in the music group and 46 in the control group. The music programme included hand signs (Kodály method), ear training, sight reading, improvisation, solo and ensemble performance and singing: the instrument used was the ukulele. The result proved that group music training and prosocial skills were associated positively among the 3rd and the 4th graders, but only for children who had had poor social skills at the beginning of the study.

There are findings showing the relationship between music learning and social skills in preschoolers. Lau (2008) reported that early childhood music, songs, activities and games are effective tools to teach children about social skills. The study was conducted in a half-day kindergarten in Hong Kong. Twenty students aged from five to six years old in an upper class (K3, the third year of preschool education) were taught singing games in their music lessons. The music lessons were conducted over eight consecutive weeks, for 30 minutes weekly. The instrument used to measure participants' social skills in this study was the "Social Attribute Checklist of McClellan and Katz (1993)". The results revealed that students' social skills are strengthened in music lessons through singing games. Kirschner & Tomasello (2009) believe that group music lessons provide a social circumstance for the development of preschoolers' synchronisation. In their study, the participants were 36 children in three age groups (2.5, 3.5 and 4.5 years old). They were invited to drum along with a drum sound from a speaker in different tempos. All of them synchronised their drumming with higher accuracy when they

played the drums together. The result revealed that participants understand and share the intention to play the drums together. Kirschner & Tomasello (2010) examined the effects of joint music-making on four-year-olds' prosocial behaviour. The experimental group was found to have a greater incidence of giving help and they showed higher levels of cooperation in a problem-solving task. Researchers believe that children's intrinsic motivation in music will increase their intention to support each other and receive help from others and that such partnerships may improve children's social bonds and will secure trust among friends and peers (Barry & Wentzel, 2006; Johnson & Johnson, 2005; Solomon, Battistich, Watson, Schaps & Lewis, 2000).

There is evidence showing the enhancement by extracurricular music activities of children's self-expression, self-efficacy and social skills. In Yun & Kim's (2013) empirical study, they found that children's self-expression, self-efficacy and social skills were significantly improved after the intervention while those of the control group were not. Participants were 43 Primary Three to Primary Six students from low income families in South Korea, 20 students were in the experimental group while 23 were in the control group from a primary school. The experimental group participated in an integrated music programme (the Orff programme), with a one-hour lesson taking place in the Eulji University Children's Centre in South Korea once a week for 16 weeks. Yun & Kim (2013) claim that integrated music programmes which include different musical activities such as singing, dancing, playing various instruments and bodily expressions can enhance children's personal development including self-expressions and self-efficacy. According to them, self-expression is an action that expresses one's rights without feeling unreasonable anxiety and without violating other people's rights. Therefore, Yun & Kim believe that integrated music programmes have positive effects on children's social skills and thus they suggest that more psychological support programmes should be developed and applied in daily life.

Pitts's (2007) study investigated students' experience of participating in a school musical production at an independent girls' secondary school in Sheffield, UK. Samples were Year 7 and Year 10 students, 25 were participants of music extracurricular activities while 163 were not. The result illustrated that extracurricular music activities benefit students' musical, personal and social development. The participation in extracurricular music activities increased students' confidence, social networks and sense of belonging. Researchers believe that music lessons taught in groups facilitate children's coordination of behaviour and mental states (Cirelli, Einarson & Trainor, 2014; Judd & Pooley, 2014; Overy & Molnar-Szakacs, 2009), and improve interactions and cooperation among students (Overy, 2012). Peer interaction in general, and synchrony among peers in particular, would be the major causes for the enhancement of social skills in group music lessons (Overy, 2012).

Although there are studies showing positive effects of music participation on students' social skills, Rickard et al. (2012) found no benefits to the social skills of the intervention group in their empirical study. Participants were recruited from nine primary schools in Australia, including 210 prep/grade one students and 149 grade three students. Students in five schools received the Kodály programme as the music intervention, prep/grade one students received three 30-minute Kodály classes per week while grade three students attended group strings classes for one hour weekly. The music intervention did not replace the regular school music curriculum; students received additional music training on top of the regular school music curriculum. The control schools did not receive this specific music programme but additional group music (e.g., percussion ensemble) and vocal classes were offered to both control and experimental schools to ensure that all schools had the opportunity to benefit in some manner from this educational initiative. The research instrument used in this study was the *Social Skills Rating System* 'SSRS' (Gresham & Elliot, 1990); the duration of intervention was three years. The result of this study was unexpected;

it matched with Schellenberg's (2004) study, which assessed the effects of weekly lessons in Kodály voice or keyboard training in 6-year-old children over a nine-month period. One of the possible reasons may be that the social skills of the participants were above average, while another possible explanation is that causes of improved social and emotional skills in group music making essentially derive from programmes which were specifically designed to build up such skills (Rabinowitch, Cross & Burnard, 2012).

In sum, there are findings show that music learning has positive effects on students' social skills, including awareness of others, developing a sense of attainment, self-belief, self-discipline and concentration. Music participation in groups will increase students' support for each other, maintain commitment and working closely together for group targets, team-work, developing trust and respect among peers and increasing levels of cooperation. However, the results of studies and research may be caused by the design of the programmes adopted, the duration of the intervention and the initial social skills of the participants; significant effects may only occur in participants who had poor social skills to begin with.

Summary

Based on the literature reviewed, there appears to be a relationship between music participation and children's development, including intellectual, social and personal development (Hallam, 2010, 2015). Additionally, research further suggests that there are interrelationships between social skills, intellectual and personal development (Kolb & Hanley-Maxwell, 2003; Ladd, Kochenderfer, & Coleman, 1997; Lori, 2009; Malecki & Elliott, 2002; Rubin, Booth, Rose-Krasnor, & Mills, 1995; Welsh, Parke, Widaman, & O'Neil, 2001). Findings also reveal that social skills relate to various areas of functioning in a child's life, such as family relationships (Boivin & Bégin, 1989; Danielson & Phelps, 2003; Putallaz & Heflin, 1990), self-esteem and overall happiness and quality of life (Rubin, Booth,

Rose-Krasnor, & Mills, 1995), academic success, peer relationships and they support future emotional skills development, self-management of career, and extracurricular and leisure activities (Kolb & Hanley-Maxwell, 2003; Lori, 2009; Malecki & Elliott, 2002; Welsh, Parke, Widaman, & O'Neil, 2001). Figure 1 is the summary of the literature review which shows the linkages between the intellectual development, social skills and personal skills of children.

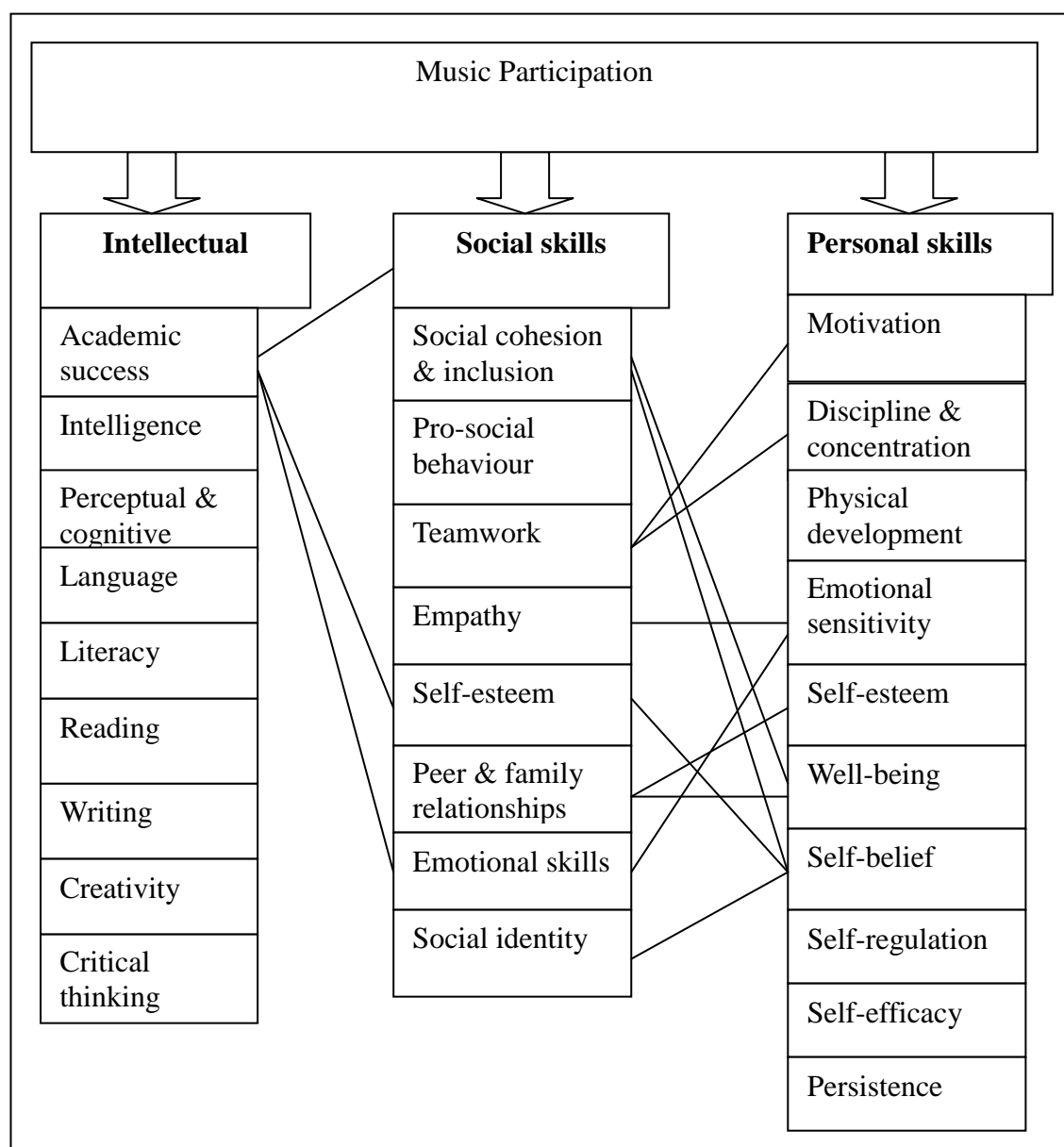


Figure 1. Summary of the literature review - linkages between the intellectual development, social skills and personal skills of children

As there is no official arts curriculum for kindergartens in Hong Kong and music teachers in kindergartens need not be professional music teachers. As a result, Hong Kong

parents are eager to send their children to extracurricular music activities to have their children receive professional music training at preschool age. Such music lessons play an important role in children's abilities and skills in different domains (Schellenberg, 2004). However, there appears to be a gap in the literature about the effects of extracurricular music participation outside schools on preschool children in Hong Kong and thus Hong Kong parents might not aware the effects of extracurricular music lessons on children's development. Furthermore, research regarding to the effects of participation in music on social and personal development has received less attention than its impact on intellectual development and attainment (Hallam, 2010). There is a need to investigate the relationship between extracurricular music participation and preschool children's social skills in Hong Kong. The next chapter presents the study's research methods, data collection procedures and data analysis.

CHAPTER 3: METHODOLOGY

Chapter three presents the methodology of the study. It begins with the restatement of the problem. The research questions, the hypotheses, description of the subjects, overview of the research design, data collection procedures and data analysis procedures follow.

Restatement of the Problem

Because of the highly competitive education system, Hong Kong parents are eager to send their children to extracurricular activities, especially at the pre-primary stage because children have more leisure time. More than 90% of Hong Kong parents give financial support for their children's extracurricular music lessons (The Chinese University of Hong Kong, 2007). Although there are provided evidence of the effects of music learning on children's personal development such as social skills; academic achievement; cognitive domains and spatial abilities; psychological and personality development; perceptual and language skills; and intelligence development and general attainment (Hallam, 2010; Schellenberg, Kathleen, Corrigan, Sebastian & Malti, 2015), most of the studies and findings are from western countries, those findings may not be applicable in Hong Kong. Furthermore, research on the effects of participation in music on social and personal development, such as self-esteem and social skills, has received less attention than research focused on the impact on intellectual development and attainment (Costa-Giomi, 2004; Gill & Rickard, 2012; Hallam, 2010), and research on the effects of music education on preschool children is limited. In the context of Hong Kong, music has an extrinsic value. The fact that music activities help to develop non-music skills would become attractive and important to different stakeholders. Therefore, there is a need to explore the effects of extracurricular music participation on preschool children's social skills.

Purpose of the Study

The purpose of this study is to examine the effects of extracurricular music participation on preschool children's social skills in Hong Kong.

Research Questions:

1. Are there any significant effects of extracurricular music training on preschool children's social skills in Hong Kong?
2. Are there any significant differences in the effects on preschool children's social skills between group music lessons and individual music lessons in Hong Kong?
3. Are there any significant differences in the effects of group music training and non-music group training on preschool children's social skills in Hong Kong?

Null Hypotheses

- H01: Extracurricular music training has no significant effects on preschool children's social skills in Hong Kong.
- H02: There is no significant difference in the effects on preschool children's social skills between group music lessons and individual music lessons in Hong Kong.
- H03: There is no significant difference in the effects of group music training and non-music group training on preschool children's social skills in Hong Kong.

Alternative Hypotheses

- Ha1: Extracurricular music training has significant effects on preschool children's social skills in Hong Kong.
- Ha2: There are significant differences in the effects on preschool children's social skills between group music lessons and individual music lessons in Hong Kong.

- Ha3: There are significant differences in the effects of group music training and non-music group training on preschool children's social skills in Hong Kong.

Description of Subjects

Subjects were four- to five-year-old children who attend extracurricular lessons in the arts, including music lessons or non-music lessons in Hong Kong. There were three groups of participants: the first group was children who attended 24 weeks of music lessons taught in groups, the second group was children who attended 24 weeks of individual piano lessons and the third group was children who attended drawing classes taught in groups. All of the lessons were extracurricular lessons taught outside of school. The first group and second group of participants were children who took lessons at a music organization; this music organization has 18 locations: five on Hong Kong Island, five in Kowloon and eight in the New Territories. Participants were drawn from these 18 locations using a random sampling method. The third group was children who attended drawing classes in two private art schools; one of these schools has two locations, one in Kowloon and another in the New Territories, the other art school is in Kowloon. Participants in the third group were drawn from these three locations using a random sampling method.

Research Design

To surmount the limitations of a single design, this study was quantitative dominant, whilst qualitative data was collected to triangulate with the quantitative data. The use of mixed methods entailed collecting a variety of quantitative and qualitative data from participants. Quantitative and qualitative method each has its own inherent weakness but is greatly strengthened when combined with the unique qualities of the other (Creswell, 2003, 2014; Glenn, 2010; O'Leary, 2010). According to Creswell and Clark (2007), a mixed

methods study is a study which focuses on collecting, analysing and mixing both quantitative and qualitative data; the combination of quantitative data and qualitative approach provides a better understanding of research problems than either method alone. As a methodology, mixed methods study requires philosophical assumptions that show the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in different phases in the research process.

There were three phases in this study; quantitative data was collected from a questionnaire in phase one, followed up with interviews and class observations to collect qualitative data to illustrate the findings from the quantitative data in phase two whilst phase three was the qualitative data transcription. Figure 2 shows the flow of study phases.

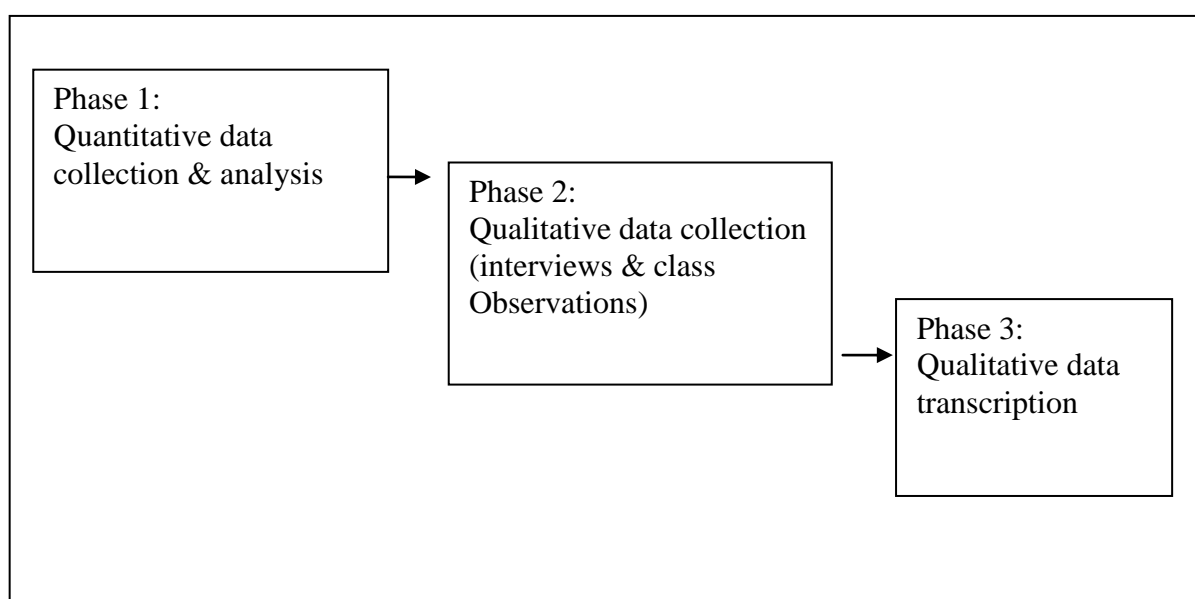


Figure 2. Flow of study phases

Intervention

To test and compare the effects of extracurricular music participation on children's social skills, three different kinds of extracurricular lessons were given to participants in this study; group music lessons, individual music lessons (piano lessons) and non-music group lessons (drawing classes).

Group 1: Group music training – the Yamaha Junior Music Course (Yamaha JMC). To ensure the participants received homogeneous and consistent music training, a well-established international music program, the Yamaha Junior Music Course was adopted for this study. Yamaha Music Education System (YMES) was founded in 1954 in Japan; it offers music training to children in over forty countries and regions. The Yamaha JMC is the core course in YMES, which was started in 1977 in Hong Kong at the Tom Lee Music Academy. It is a parent-involved comprehensive music course for four- to five-year-olds, using a keyboard as the learning tool. The class size in Hong Kong is from six to ten children. During the lessons, children learn solfège and songs with lyrics, use keyboards, and focus on eurhythmics, music appreciation, playing rhythms and ensembles and basic music theory. The JMC teachers in Hong Kong are trained to teach this course and they attend seminars regularly to brush up on their teaching skills and review teaching materials. This particular music course was chosen for this study because all of the course teachers are qualified and well trained, lesson content is standardised and the teaching methods are unified, ensuring that participants in this group have received homogenous music training.

Group 2: Individual music training - piano lessons. Piano lessons are the most popular extracurricular instrumental lessons in Hong Kong. In fact, some Hong Kong primary schools do not count piano playing as an instrumental skill, and students must learn a second instrument to fulfil the entry requirement of some band-one schools in Hong Kong. In order to ensure the participants would receive piano lessons with the same quality, participants in this group took individual piano lessons at the same music organisation as group one in Hong Kong. Piano teachers who teach at this music organisation are all qualified professional piano teachers who have acquired ABRSM Piano Grade 8 or above as this is the basic requirement for piano teachers in this music organisation. Furthermore, all piano teachers were audited and interviewed before they start teaching in this music organisation. Although teachers may

use different piano books, basically they follow ABRSM syllabus. They need to submit learning progress reports for each of their students twice per year, and they periodically attend seminars organized by the music organisation. Students' progress and teachers' teaching quality are monitored by the education manager of this music organisation.

Group 3: Non-music group training – drawing class. To compare with group music training participants, participants in this group received non-music group training as a control group design. Besides music, drawing classes are very popular for preschool children in Hong Kong. Therefore, the third group was students who participated in drawing classes but did not take any extracurricular music lessons or training. Participants were randomly selected from two private art schools: Kids by Kiddy Land Limited (KKLL) and Vkids Creative (VkC). The KKLL has two locations, one on Hong Kong Island and the other in the New Territories whilst VkC is located in Kowloon. Over 90% of the teachers in these arts schools are Bachelor Degree holders in visual arts and/or design. All three art studios offer small group classes for children of different age ranges, from 3- to 12-year-olds; class size is from four to eight students. Drawing classes for 4- to 5-year-olds were 60-minute group lessons held once a week. Although teaching content varies based on the age and abilities of the students, all students have to complete their drawings and bring their drawings home after each class.

By comparing the data collected from Group 1 and Group 2, findings would show the differences in the effects between group music training and individual music training on young children's social skills. Data collected from Group 3 showed the effects of non-music group lessons on young children's social skills. By comparing the data collected from Group 1 and Group 3, findings showed the differences in the effects of music training and non-music training in group lessons on young children's social skills. Figure 3 and Figure 4 show how the collected data from the different groups were compared and what the results

revealed.

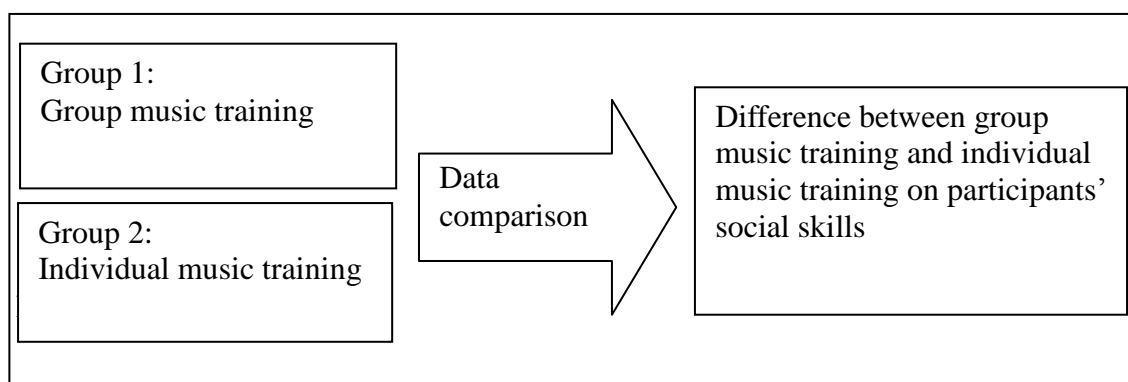


Figure 3. Results from data collected in Group 1 and Group 2

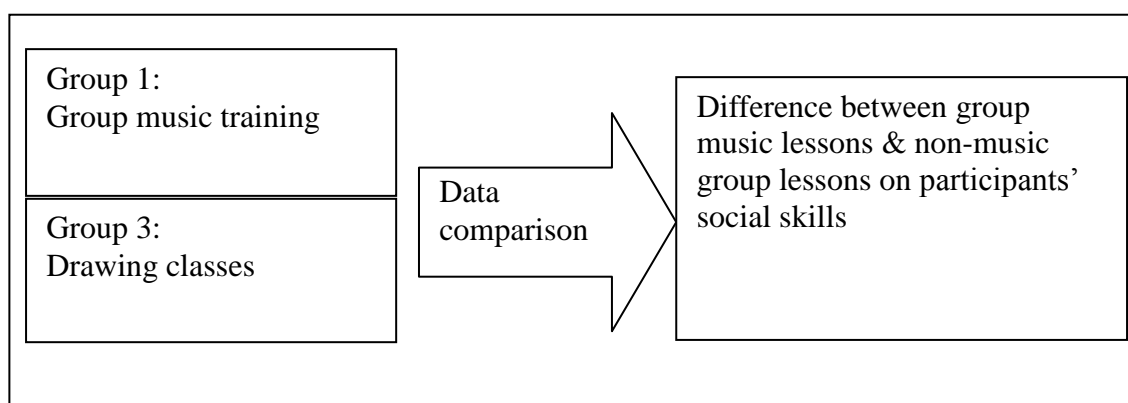


Figure 4. Results from data collected in Group 1 and Group 3

Sample Size

G*Power version three (Buchner, Erdfelder, & Faul, 1997) is a very common freeware program that allows high-precision power and sample size analyses, it computes power values for given sample sizes, effect sizes, and alpha levels. In this study, the effect size computed by G*Power, the alpha level probability was set as $p=0.05$, the significance of the differences in three sample means design was being evaluated using ANOVA. This type of design is known as a ‘repeated measures, within-between interaction design’. The effect size computed by G*Power as listed in Table 1.

Table 1

*Effect Size Computed by G*Power*

Power (r)/	0.7	0.8	0.9	0.95
Effect size (f)				
0.1	198	246	321	390
0.25	36	42	54	66
0.4	12	9	24	30

However, based on the literature review in chapter two, the sample size of relevant studies was varied and was not based on G*Power calculation and the number of participants was not the same between groups. For instance, in Kokotsaki & Hallam's study (2007), which assessed the impacts of active engagement in music making on music students, sample size were 78 students from two English universities. In Rabinowitch, Cross & Burnard's study (2012), they evaluated the effects of musical group interaction programmes on children's emotional empathy. Participants were 52 students from four UK primary schools; 23 were in the experimental group while the others were in the control group. In Schellenberg, Corrigan, Dys, & Malti's study (2015), which investigated the relationship between group music training and prosocial skills on third and fourth grade children, the number of participants was 84; 38 were in the music group and 46 were in the control group. In Lau's study (2008), which proved that early childhood music, songs, activities and games are effective tools to teach children about social skills, was conducted in a half-day kindergarten in Hong Kong. Participants were 20 students aged five to six in an upper class (K 3 level) in the kindergarten. In Kirschner & Tomasello's study (2009), which investigated group music lessons on the development of preschoolers' synchronization, samples were 36 children in three age groups. The age groups were 2.5-, 3.5- and 4.5-year-olds. In Yun & Kim's empirical study (2013), which explored the effects of an integrated music program on children's social skills, participants were 43 Primary Three to Primary Six students from low-income families in South Korea. Twenty students were in the experimental group and 23 were in the control group. In Pitts's study (2007), which investigated students' experiences of participating in a school musical production, 188 samples were Year Seven and Year Ten students from an

independent girls' secondary school in Sheffield, UK. Twenty-five students were participants of music extracurricular activities and the others were not. The sample size of the above studies was from 20 to 188, and participants in each study were not evenly allocated in the experimental group and control group. Moreover, the duration of the intervention was varied, lasted from eight weeks to ten months.

After consideration of the participants recruitment in practice and the significance of the data collected, the sample size in this study aimed at 180; 72 in Group 1 and Group 2 respectively and 36 in Group 3.

Sampling

A stratified random sampling method was adopted in this study. Stratified sampling is a type of sampling method in which the total population is divided into smaller groups, or strata, to complete the sampling process. The strata are formed based on some common characteristics in the population data. After dividing the population into strata, the researcher randomly selects the sample proportionally or disproportionately (Creswell, 2008; Fink, 2013; Furlong, Lovelace, & Lovelace, 2000; Johnson & Christensen, 2008). Stratified random sampling has been used by different researchers in order to improve the precision of estimators (Solanki & Singh, 2015). The process of stratifying in stratified sampling minimizes sampling error and ensures a greater level of representation. Furthermore, when there is homogeneity within strata and heterogeneity between strata, the estimates will be more precise as stratified sampling secures adequate representation of all subgroups (Gelo, Braakmann, & Benetka, 2008; Kothari, 2004).

Samples in Group 1: Group music training. There are 18 music centres that offer the Yamaha JMC in Hong Kong: five on Hong Kong Island, five in Kowloon and eight in the New Territories. To ensure statistical generalization, samples were drawn from each of the

eighteen music centres. Hence, each of the 18 centres represented a strata. Two classes were selected from each centre using the simple random sampling (SRS) method, and then two students were drawn from each of the selected classes using the SRS method. 72 students were drawn in this group in group 1. Figure 5 shows sampling strategy for group 1.

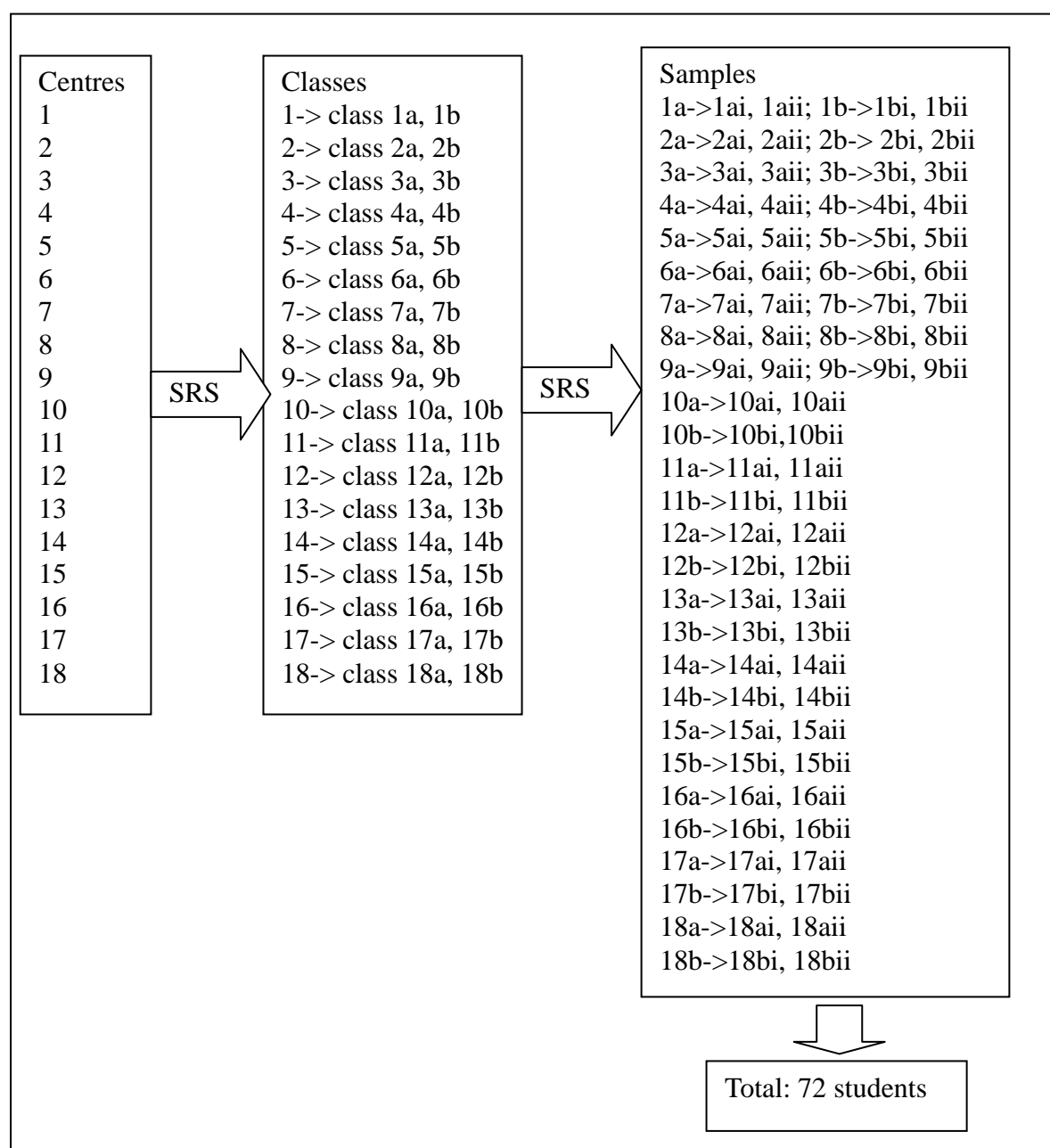


Figure 5. Sampling strategy for Group 1

Group 2: Individual music training. Samples in this group were students who take individual piano lessons at the same 18 music centres as Group 1. As with Group 1, to ensure

statistic generalization, samples were drawn from each of the 18 music centres. Each music centre represented a strata. Four samples were drawn from each of the 18 locations using the SRS method. A total of 72 samples were drawn in this group. Figure 6 shows sampling strategy for Group 2.

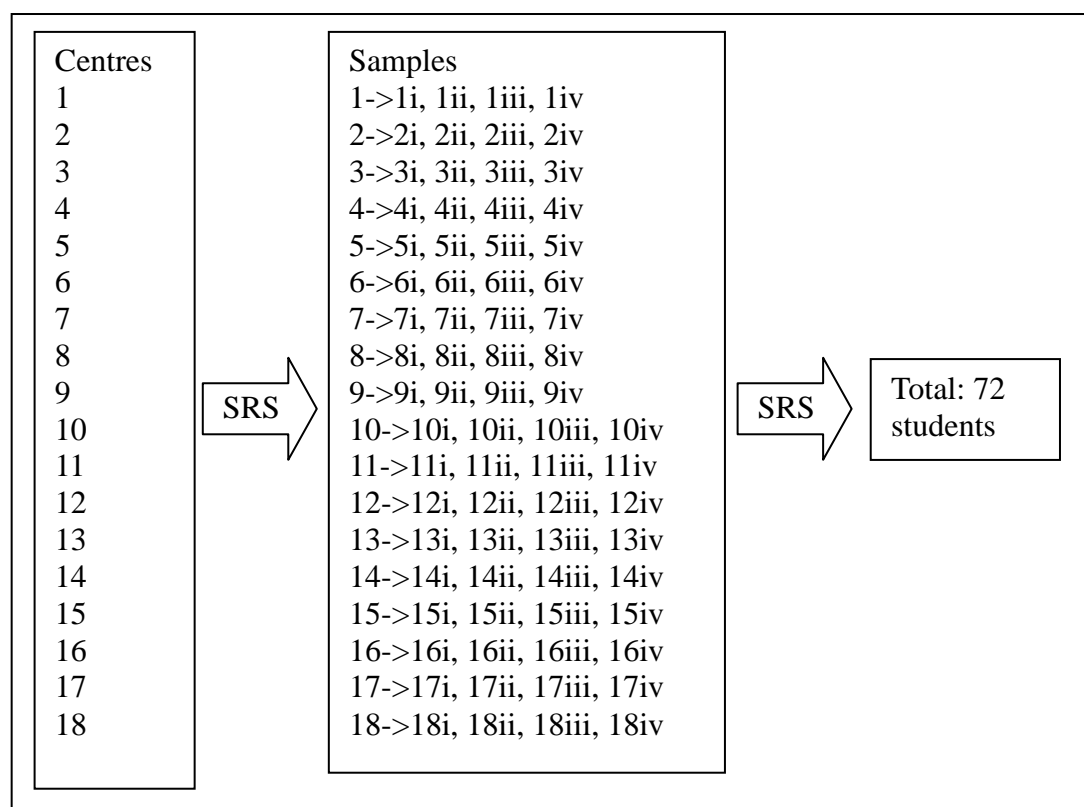


Figure 6. Sampling strategy for Group 2

Group 3: non-music group training. Random samples were drawn from drawing classes in two private art schools: Kids by Kiddy Land Limited (KKLL) and Vkids Creative (VkC). KKLL has two locations, one on Hong Kong Island (HK) and the other in the New Territories (NT) and VkC is in Kowloon. As with Group 1 and Group 2, in order to ensure samples were drawn from each of the art schools, each art school location represented a strata. Four classes were selected from each art school using the simple random sampling (SRS) method, random samples were drawn from each school, and then three students were drawn from each of the selected classes using the SRS method. Thirty-six samples were drawn in

this group. Figure 7 shows sampling strategy for Group 3.

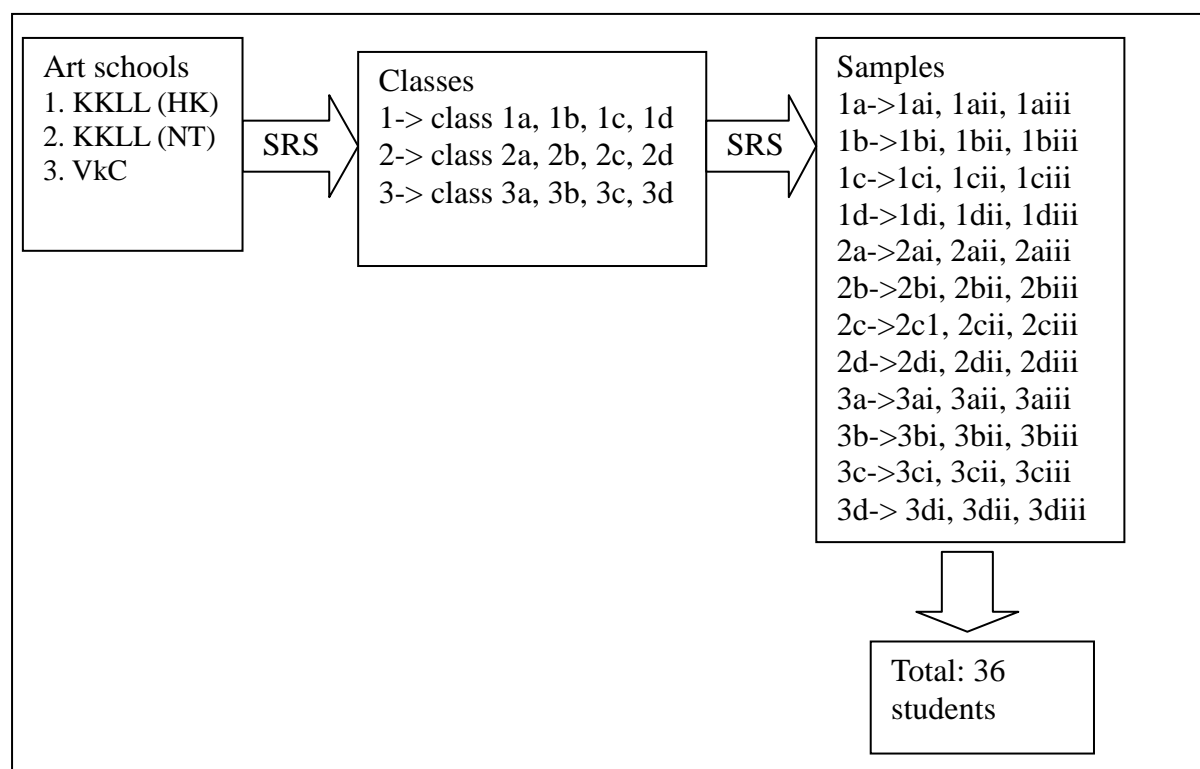


Figure 7. Sampling strategy for Group 3

As indicated in Table 2, the number of participants was 72 in both Group 1 and Group 2 and there were 36 in Group 3. The number of teachers involved was nine in Group 1, fourteen in Group 2 and four in Group 3 respectively.

Table 2

Number of Participants and Teachers Involved

Group	Number of samples	Number of teachers involved
Group 1 (music training)	72	9
Group 2 (piano lessons)	72	14
Group 3 (drawing)	36	4

Ethical Consideration in Participatory Research

All investigators and researchers must be cognisant of the ethical codes and regulations governing their practice. Most institutions of higher education have their own ethics committees, and these usually have their own code of ethics against which they

evaluate research proposals. Before collecting any data, I sought and received ethical approval from the Education University of Hong Kong. Then, I contacted the principal and the person in charge of the music centres and art schools to explain the purpose and the process of this study to them. Afterwards, information sheets and consent forms were sent to the principal and/or the person in charge (see Appendix A) via email. Upon consent approval, samples were drawn as planned. After samples were drawn, I contacted the parents and teachers of the drawn samples, explained the purpose and the process of this study to them, and then sent information sheets and consent forms to the parents (see Appendix B) and teachers (see Appendix C) accordingly. When I explained this study to the teachers, I have clearly stated that they were not under any pressure to participate in this study. Moreover, the results of this study were not for promoting any spectacular extracurricular activities/programmes or their working organisation. I have clearly explained to teachers that this study was an academic research, there was nothing related to any promotion of their working company or any association with their employment status. After I received all the consent forms, I started the study and data collection.

As the researcher in this study, I was responsible for acquiring the data set and analysing of the data used and ensuring this study was conducted following the ethical research practices of my university. I am the music director in the music organization in this study, so to minimise the risk of coercion, I explained to the teachers in the music organization that participation in this study was voluntary and there would be no benefits to participants nor would there be any negative consequences related to their employment should they decide not to volunteer. To ensure privacy of the participants, they were assured that no names or identifying information would be used in the transcriptions or in the reporting of the findings. All identifiable information, including consent forms and audio recordings, were placed in a locked file cabinet and on a password-protected computer, and

only the researcher has access to the records.

Instrument

The instrument used in this study was the Social Skills Improvement System-Rating Scales 'SSIS-RS' (Gresham & Elliott, 2008). It measures three domains including social skills, problem behaviours and academic competence of children aged from 3 to 18 years old, each with subscales. There are four SSIS-RS rating forms including *Teacher Form*, *Parent Form*, *Student Form I* (ages 8-12) and *Student Form II* (ages 13-18). The *Teacher Form* was used in this study because of several reasons: i) the age of the participants (no *Students Form* available for children aged under eight years old; ii) parents might be subjective as they only saw their own children; iii) teachers might be more objective than the parents as they oversee many children. The Social Skills domain includes 46 items in seven subscales: Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement and Self-Control. The frequency of each Social Skills item is rated using the four-point scale, ranging from *Never* (0) to *Almost Always* (3). Behaviour levels corresponding to social skills subscale raw scores for the *Teacher Form* (students aged from three to five, gender combined) as listed in Table 3.

Table 3
Behaviour Levels Corresponding to Subscale Raw Scores for the Teacher Form

Social skills subscale	Below average	Average	Above average
Communication	0-10	11-19	20-21
Cooperation	0-9	10-16	17-18
Assertion	0-8	9-17	18-21
Responsibility	0-8	9-17	18
Empathy	0-8	9-16	17-18
Engagement	0-10	11-19	20-21
Self-Control	0-9	10-18	19-21

The SSIS-RS assessments are currently in use in different countries including Australia, Canada, England, Ireland, New Zealand and Scotland and have been translated for

use by researchers in Brazil, Chile, Germany, Iran, Japan, Korea and Malaysia. The Rating Scales feature coefficient alphas in the upper 0.90s and test–retest correlations in the 0.80s (Sherbow, Kettler, Elliott, Davies & Dembitzer, 2015). As mentioned in Chapter one, in Cheung, Siu and Brown’s study (2017), they concluded that the SSIS-RS is a promising instrument to differentiate social skills and problem behaviours among Hong Kong students in Hong Kong. To ensure the reliability of the SSRS-IS, Cronbach’s alpha of each subscale in this study was calculated by SPSS as Table 4.

Table 4

Cronbach’s’ Alpha of the Subscales

Subscale	Number of items	Cronbach’s alpha	
Communication	7	.838 (T1)	.865 (T2)
Cooperation	6	.818 (T1)	.807 (T2)
Assertion	7	.782 (T1)	.753 (T2)
Responsibility	6	.816 (T1)	.834 (T2)
Empathy	6	.817 (T1)	.842 (T2)
Engagement	7	.841 (T1)	.854 (T2)
Self-Control	7	.817 (T1)	.788 (T2)

T1= pretest; T2 = posttest

The purpose and the process of the study and instructions of how to fill in the questionnaire were explained to teachers before the study. Teachers filled in the form in the first month and again at the end of the intervention in this study respectively.

Data Collection Procedure

Phase I: Pretest and Posttest. Teachers filled in the SSIS-RS in this study. In order to make teachers’ evaluations equivalent, I met them before they filled in the SSIS-RS, explained the 46 items and the rating criteria to them. To ensure teachers have enough time to observe students’ social skills for the pretest, all the SSIS-RS forms were filled in by participants’ teacher after the third lesson of the intervention in the pretest.

In sum, all the participants were drawn randomly from classes that started in February 2017; interventions were started at that time. Participants in each group attended one-hour

weekly lessons; the duration of the interventions was 24 weeks. Teachers evaluated participants' social skills after the intervention and filled in the SSIS-RS form again for the posttest. Data collection of the pretest and posttest was completed in April and October respectively.

Phase II: Individual Interview. Interviews allowed the researcher to gather information to further explore quantitative data. Semi-structured interviews (Corbin & Strauss, 2014; Dunbar, Rodriquez & Parker, 2002; Whiting, 2008) were conducted after the posttest. The purpose of interviews was to collect qualitative data to triangulate with the quantitative data and help the author to round out and deepen the author's understanding of the results. Purposeful samples were drawn from each group after the posttest; the interviewees were three teachers and three parents from each group. The selected teachers from each group were experienced teachers so that they have an understanding of how extracurricular lessons affect young children's social skills and they might be able to give relevant examples, if any. The selected parents had at least two children at the age of four or above so that they might give more useful information for this study by comparing the effects of extracurricular activities on the social skills of their children. A face-to-face individual interview was conducted for each of the interviewees; the duration of each interview was 15 to 20 minutes and was audio recorded to ensure accuracy and enable better transcription. The transcription was shown to each of the interviewees accordingly to check its accuracy and for interviewees to confirm its use in this study. All of the interviews were conducted from July to October 2018. Interview questions for teachers and parents are listed in Appendix D and Appendix E.

Class observation. The purpose of class observation was to triangulate with the quantitative data and for reality check. People do may differ from what they say they do. According to Robson (2002), observation provides a reality check. In order to know the

context and practice of the intervention lessons, one class of each of the interviewed teachers was selected randomly for class observation after the interviews; therefore, three classes of each group were observed in phase two. Unstructured observation (Patton, 1990) was adopted in this study, the researcher was an unobtrusive observer (Gorman & Clayton, 2005) in the class observations; the researcher was present in the classroom but did not participate or interact with insiders. This kind of observation is often used in conjunction with other data collection techniques (Baker, 2006). The researcher was only allowed to take notes during the class observations, no audio or video recording was allowed. A sample of class observation notes was included in appendix F.

Data Analysis

SPSS software for Windows was used to analyse the quantitative data of this study.

There were three variables in this study:

1. The dependent variable: Social Skills, which was measured by the SSRS-IS
2. The between-subjects factor: Group, which has three categories:
 - Group 1 (music training in groups)
 - Group 2 (individual music training)
 - Group 3 (non-music training in groups)
3. The within subjects factor: Time, which has two categories:
 - Time 1 (pretest)
 - Time 2 (posttest)

Participants' social skills were measured in the variable "pre" in Time 1 and "post" in Time 2. These two variables made up the with-in subjects factor, Time; and the scores within these two variables reflected the dependent variables, Social Skills. The different interventions were stored in the variable, Group, where "Gp 1" is the group music training,

“Gp 2” is the individual music training and “Gp 3” is the drawing class. A 3 (group) x 2 (time) mixed design ANOVA was used to compute and to analyse the data collected to investigate if there was an interaction between Group, Time and Social Skills.

Summary

To address the research questions, the design of this study was quantitative dominant, whilst qualitative data was collected in order to triangulate with the quantitative data. Pretest and posttest were conducted in phase one, face-to-face individual interviews and class observations were conducted in phase two. The measuring instrument used was the SSRS-IS; teachers completed the SSRS-IS *Teacher Form* in the pretest and posttest respectively. Participants were 180 four- to five-year-old children; selected interviewees in phase two were three teachers and three parents of the participants from each group, interviews were audio recorded and transcribed. One class of each interviewed teacher was observed. Mixed ANOVA was used to compute and to analyse the data collected.

Chapter 4: Data Analysis and Results

Purpose

This study's purpose was to examine extracurricular music lessons' effects on preschool children's social skills. The following research questions comprised the study's foundation:

1. Are there any significant effects from extracurricular music training on preschool children's social skills in Hong Kong?
2. Are there any significant differences in the effects on preschool children's social skills between group music lessons and individual music lessons in Hong Kong?
3. Are there any significant differences in the effects of group music training and non-music group training on preschool children's social skills in Hong Kong?

To accomplish this study's objective, the participants' social skills were measured before and after the intervention, and their mean scores were compared within and among the groups. This chapter summarises the participants' demographics and analytic procedures, reports the quantitative analyses' results, describes collected qualitative data and ends with a chapter summary.

Participants' demographics

This study's participants comprised 4- to 5-year-old children who participated in one of the three extracurricular lessons examined in this study: i) group music training; ii) individual music training (piano lesson); and iii) non-music group training (drawing class). A total of 180 children were invited to participate in this study, with participants' genders naturally distributed and all of them having completed the interventions. The numbers of completed surveys in each group were 72 in Group 1 (group music training), 72 in Group 2 (individual piano lesson) and 36 in Group 3 (drawing group). Participants for group music training and

piano lessons were recruited from a music organisation in Hong Kong with 18 locations, while participants for the drawing classes were drawn from two different art schools.

Interventions were conducted, and quantitative data were collected during Phase 1.

Qualitative data were collected through individual interviews with purposeful samples, and class observations were conducted during Phase 2.

Analytic procedures

Phase 1: Quantitative data analysis. Participants' social skills were measured using the Social Skills Improvement System-Rating Scale 'SSIS-RS' (Gresham & Elliott, 2008), which uses a four-point scale ranging from 'Never' to 'Almost Always' (0-3). The SSIS-RS includes seven subscales: Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement and Self-Control, comprising 46 items. Participants' teachers completed the *Teacher Form* before and after the interventions. Nine teachers involved in group music training, 14 in the piano-lesson group and four in the drawing group.

SPSS software (Version 24.0) for Windows was used to analyse this study's quantitative data. Participants' social skills in each subscale were measured through the variables 'pre' for pre-intervention and 'post' for post-intervention. The interventions were stored in the variable: group, in which 'Gp 1' was the music training in group lessons, 'Gp 2' was the individual music training (piano lessons) and 'Gp 3' was the non-music training in group lessons (drawing). A 3 (group) x 2 (time) mixed-design ANOVA was used to compute and analyse the data collected to examine whether group, time and social skills interacted. To compare the three groups' changes in social skills from Time 1 to Time 2, one-way ANOVA post hoc tests were used to compute the mean difference among groups in the pretest and posttest.

Results. i) Communication subscale. ANOVA results indicated positive correlation between extracurricular music training (including group and individual) and participants' communication skills. As shown in Table 5, Tukey post hoc tests revealed that the effects from group music training on participants' communication skills were significantly higher than the effects from piano lessons, with the mean difference 0.10 ($p = .48$) in the pretest and 0.42 ($p < .001$) in the posttest. The effects from group music training on participants' communication skills also were significantly higher than the effects from the drawing classes, with the mean difference 0.27 ($p = .02$) in the pretest and 0.68 ($p < .001$) in the posttest. The effects from piano lessons on participants' communication skills also were significantly higher than the effects from the drawing classes, with the mean difference 0.18 ($p = .19$) in the pretest and 0.27 ($p = .01$) in the posttest.

Table 5

Summary of the Mean Differences Among Groups in the Communication Subscale

Group(I)	Pretest			Posttest	
	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI
Music Training	Piano	.10	[.10, .29]	.42***	[.25, .59]
Music Training	Drawing	.27*	[.03, .51]	.68***	[.47, .90]
Piano	Drawing	.18	[.06, .42]	.27**	[.05, .48]

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95%CI = 95% Confidence Interval

The principal effect of time was significant (Time: $F[1, 177] = 54.57$, $p < .001$, $\eta_p^2 = 0.24$), with the mean of the 180 participants' total scores increasing significantly from pretest ($M = 10.38$, $SD = 3.52$) to posttest ($M = 12.08$, $SD = 3.59$). The principal group effect also was significant (Group: $F[2, 177] = 15.82$, $p < .001$, $\eta_p^2 = 0.15$). The 3 (group) x 2 (time) ANOVA on the 180 participants' communication-subscale total scores revealed a significant interaction between group and time ($F[2, 177] = 21.27$, $p < .001$, $\eta_p^2 = 0.19$). A paired-sample t-test revealed that all three groups increased in mean communication subscale score. For the group music training (Group 1), the mean communication subscale score

increased by 0.45 from pretest ($M = 1.58$, $SD = 0.47$) to posttest ($M = 2.03$, $SD = 0.41$); $t(71) = -9.16$, $p < .001$. For the piano group (Group 2), the mean communication subscale score increased by 0.13 from pretest ($M = 1.48$, $SD = 0.58$) to posttest ($M = 1.61$, $SD = 0.53$); $t(71) = -2.93$, $p = .005$. For the drawing group (Group 3), the mean communication subscale score increased by 0.04 from pretest ($M = 1.30$, $SD = 0.32$) to posttest ($M = 1.34$, $SD = 0.27$); $t(35) = -2.94$, $p = .006$.

In Figure 8 below, different changes among the three groups from pretest to posttest can be observed. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' communication subscale skills were the strongest, while the effects from piano lessons were slightly stronger than the effects from drawing classes.

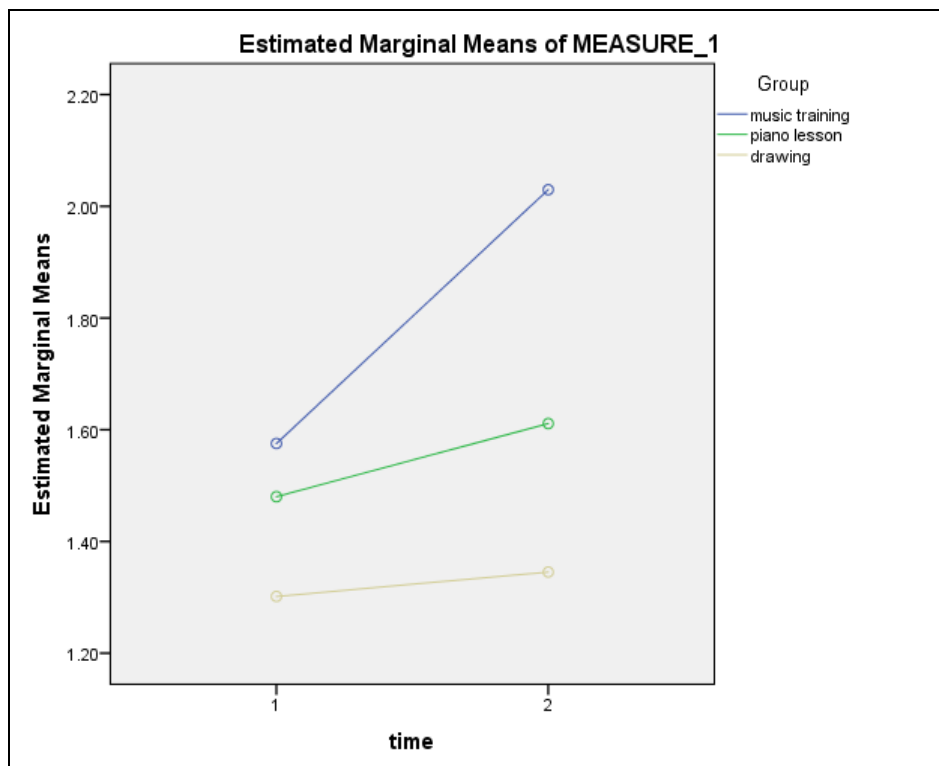


Figure 8. Comparison of mean communication scores
 SPLIT FILE SEPARATE BY Group.
 T-TEST PAIRS=com1 WITH com2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' communication skills differed significantly. The effects from group music training and drawing classes on participants' communication skills also differed significantly.

ii). Cooperation subscale. ANOVA results indicated positive correlation between extracurricular music training (including group and individual) and participants' cooperation skills. As shown in Table 6, Tukey post hoc tests revealed that the effects from group music training on participants' cooperation skills were significantly higher than the effects from piano lessons, with the mean difference 0.07 ($p = .65$) in the pretest and 0.29 ($p < .001$) in the posttest. The effects from group music training on participants' cooperation skills also were significantly higher than the effects from drawing classes, with the mean difference 0.21 ($p = .10$) in the pretest and 0.50 ($p < .001$) in the posttest. The effects from piano lessons on participants' cooperation also were significantly higher than the effects from drawing classes, with the mean difference 0.14 ($p = .33$) in the pretest and 0.21 ($p = .03$) in the posttest.

Table 6

Summary of the Mean Differences Among Groups in the Cooperation Subscale

	<i>Pretest</i>			<i>Posttest</i>	
Group(I)	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI
Music Training	Piano	.07	[.11, .25]	.29***	[.13, .45]
Music Training	Drawing	.21	[.02, .43]	.50***	[.30, .69]
Piano	Drawing	.14	[.09, .43]	.21*	[.15, .40]

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95% CI = 95% Confidence Interval

The principal effect of time was significant (Time: $F[1, 177] = 21.02$, $p < .001$, $\eta_p^2 = 0.11$), with the mean of the 180 participants' total scores having significantly increased from pretest ($M = 10.18$, $SD = 2.83$) to posttest ($M = 11.11$, $SD = 2.65$). The principal group effect also was significant (Group: $F[2, 177] = 10.01$, $p < .001$, $\eta_p^2 = 0.10$). The 3 (group) x 2 (time) ANOVA on the 180 participants' total scores on cooperation-subscale skills revealed significant interactions between group and time ($F[2, 177] = 10.27$, $p < .001$, $\eta_p^2 =$

0.10). For the group music training (Group 1), the mean cooperation subscale score increased by 0.30 from pretest ($M = 1.77$, $SD = 0.51$) to posttest ($M = 2.07$, $SD = 0.44$); $t(71) = -5.62$, $p < .001$. For the piano-lesson group (Group 2), the mean cooperation subscale score increased by 0.08 from pretest ($M = 1.70$, $SD = 0.49$) to posttest ($M = 1.78$, $SD = 0.40$); $t(71) = -2.03$, $p = .046$. For the drawing group (Group 3), no significant difference was found in the mean cooperation subscale score from pretest ($M = 1.56$, $SD = 0.31$) to posttest ($M = 1.57$, $SD = 0.29$); $t(35) = -0.53$, $p = .600$.

Figure 9 below shows different changes among the three groups from pretest to posttest. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' social-cooperation subscale skills were the strongest, while effects from piano lessons were weaker. The drawing group's slope was nearly flat, indicating no significant effects from drawing classes on participants' social-cooperation subscale skills.

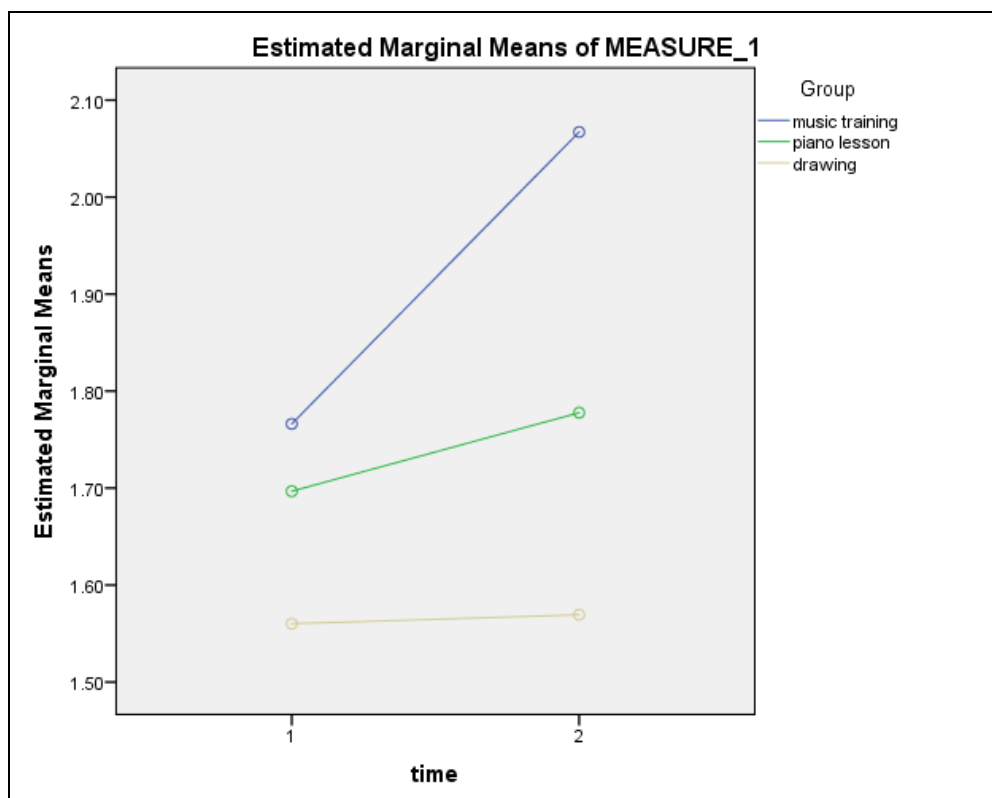


Figure 9. Comparison of mean cooperation scores
 SPLIT FILE SEPARATE BY Group.
 T-TEST PAIRS=coop1 WITH coop2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' cooperation skills differed significantly. The effects from group music training and drawing classes on participants' cooperation skills also differed significantly.

iii). Assertion subscale. ANOVA results indicated positive correlation between extracurricular music training (including group and individual) and participants' assertion skills. As shown in Table 7, Tukey post hoc tests revealed that the effects from group music training on participants' assertion skills were significantly higher than the effects from piano lessons, with the mean difference -0.07 ($p = .65$) in the pretest and 0.17 ($p = .03$) in the posttest. The effects from group music training on participants' assertion skills also were significantly higher than the effects from drawing classes, with the mean difference -0.09 ($p = .61$) in the pretest and 0.23 ($p = .02$) in the posttest. However, the effects from piano lessons on participants' assertion skills did not show any significant differences from the drawing classes, with the mean difference -0.02 ($p = .97$) in the pretest and 0.06 ($p = .79$) in the posttest.

Table 7

Summary of the Mean Differences Among Groups in the Assertion Subscale

Group(I)	Pretest			Posttest	
	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI
Music Training	Piano	-.07	[-.24, .11]	.17*	[.01, .34]
Music Training	Drawing	-.09	[-.30, .13]	.23*	[.03, .43]
Piano	Drawing	-.02	[-.23, .19]	.06	[-.14, .25]

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95%CI = 95% Confidence Interval

The principal effect from time was significant (Time: $F[1, 177] = 49.72$, $p < .001$, $\eta_p^2 = 0.22$), with the mean of the 180 participants' total scores significantly increasing from pretest ($M = 8.82$, $SD = 3.09$) to posttest ($M = 10.24$, $SD = 2.95$). The principal group effect

was not significant (Group: $F[2, 177] = 0.53$, $p = .591$, $\eta_p^2 = 0.006$). The 3 (group) \times 2 (time) ANOVA on the 180 participants' assertion subscale total scores revealed a significant interaction between group and time ($F[2, 177] = 15.39$, $p < .001$, $\eta_p^2 = 0.15$). A paired-sample t-test revealed that all three groups increased in mean assertion subscale score. For the group music training (Group 1), the mean assertion subscale score increased by 0.36 from pretest ($M = 1.22$, $SD = 0.41$) to posttest ($M = 1.58$, $SD = 0.39$); $t(71) = -8.03$, $p < .001$. For the piano-lesson group (Group 2), the mean assertion subscale score increased by 0.12 from pretest ($M = 1.28$, $SD = 0.50$) to posttest ($M = 1.40$, $SD = 0.46$); $t(71) = -3.20$, $p = .002$. For the drawing group (Group 3), the mean assertion subscale score increased by 0.05 from pretest ($M = 1.30$, $SD = 0.38$) to posttest ($M = 1.35$, $SD = 0.34$); $t(35) = -3.74$, $p = .001$.

From Figure 10 below, different changes among the three groups can be observed from pretest to posttest. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' assertion subscale skills were the strongest, while effects from piano lessons were slightly stronger than drawing classes.

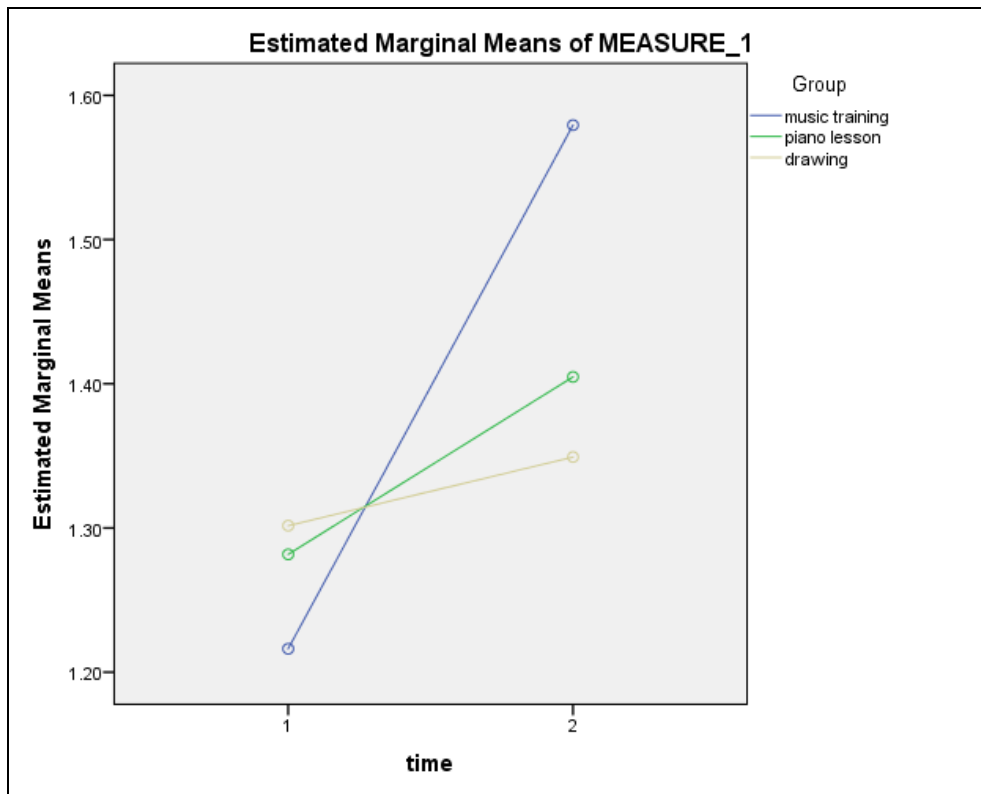


Figure 10. Comparison of mean assertion scores
SPLIT FILE SEPARATE BY Group.
T-TEST PAIRS=as1 WITH as2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' assertion skills differed significantly. The effects from group music training and drawing classes on participants' assertion skills also differed significantly. However, the effects from piano lessons and drawing classes on participants' assertion skills did not differ significantly.

iv). Responsibility subscale. ANOVA results indicated positive correlation between extracurricular group music training (not in individual training) and participants' responsibility subscale. As shown in Table 8, Tukey post hoc tests revealed that the effects from group music training on participants' responsibility subscale were significantly higher than the effects from the piano lessons, with the mean difference 0.17 ($p = .07$) in the pretest and 0.40 ($p < .001$) in the posttest. The effects from group music training on participants'

responsibility subscale also were significantly higher than the effects from drawing classes, with the mean difference 0.28 ($p = .006$) in the pretest and 0.51 ($p < .001$) in the posttest. However, the effects from piano lessons on participants' responsibility subscale did not show any significant differences compared with effects from drawing classes, with the mean difference 0.12 ($p = .41$) in the pretest and 0.12 ($p = .36$) in the posttest.

Table 8

Summary of the Mean Differences Among Groups in the Responsibility subscale

Group(I)	Pretest			Posttest	
	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI
Music Training	Piano	.17	[-.01, .34]	.40***	[.24, .56]
Music Training	Drawing	.28**	[.07, .50]	.51***	[.32, .71]
Piano	Drawing	.12	[-.10, .33]	.12	[-.08, .31]

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95%CI = 95% Confidence Interval

The principal effect of time was significant (Time: $F[1, 177] = 19.17$, $p < .001$, $\eta_p^2 = 0.10$), with the mean of the 180 participants' total scores having significantly increased from pretest ($M = 8.96$, $SD = 2.73$) to posttest ($M = 9.71$, $SD = 2.79$). The principal group effect also was significant (Group: $F[2, 177] = 15.07$, $p < .001$, $\eta_p^2 = 0.15$). The 3 (group) \times 2 (time) ANOVA on the 180 participants' responsibility subscale skills' total scores revealed significant interactions between group and time ($F[2, 177] = 11.41$, $p < .001$, $\eta_p^2 = 0.11$). A paired-sample t-test revealed that the mean responsibility subscale score on group music training (Group 1) and the drawing group (Group 2) increased significantly from pretest to posttest, while no significant difference between pretest and posttest was observed in the piano-lesson group (Group 3). For the group music training (Group 1), the mean responsibility subscale score increased by 0.26 from pretest ($M = 1.62$, $SD = 0.45$) to posttest ($M = 1.88$, $SD = 0.42$); $t(71) = -6.04$, $p < .001$. For the piano-lesson group (Group 2), the difference in the mean responsibility subscale score was not significant between pretest ($M = 1.45$, $SD = 0.51$) and posttest ($M = 1.48$, $SD = 0.47$); $t(71) = -0.82$, $p = .415$. For the drawing

group (Group 3), the mean responsibility subscale score increased by 0.04 from pretest ($M = 1.33$, $SD = 0.25$) to posttest ($M = 1.37$, $SD = 0.25$); $t(35) = -2.50$, $p = .017$.

From Figure 11 below, different changes among the three groups can be observed from pretest to posttest. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' responsibility subscale skills were the strongest, while effects from piano lessons and drawing classes on participants' responsibility subscale skills were almost the same, as the two slopes were nearly parallel.

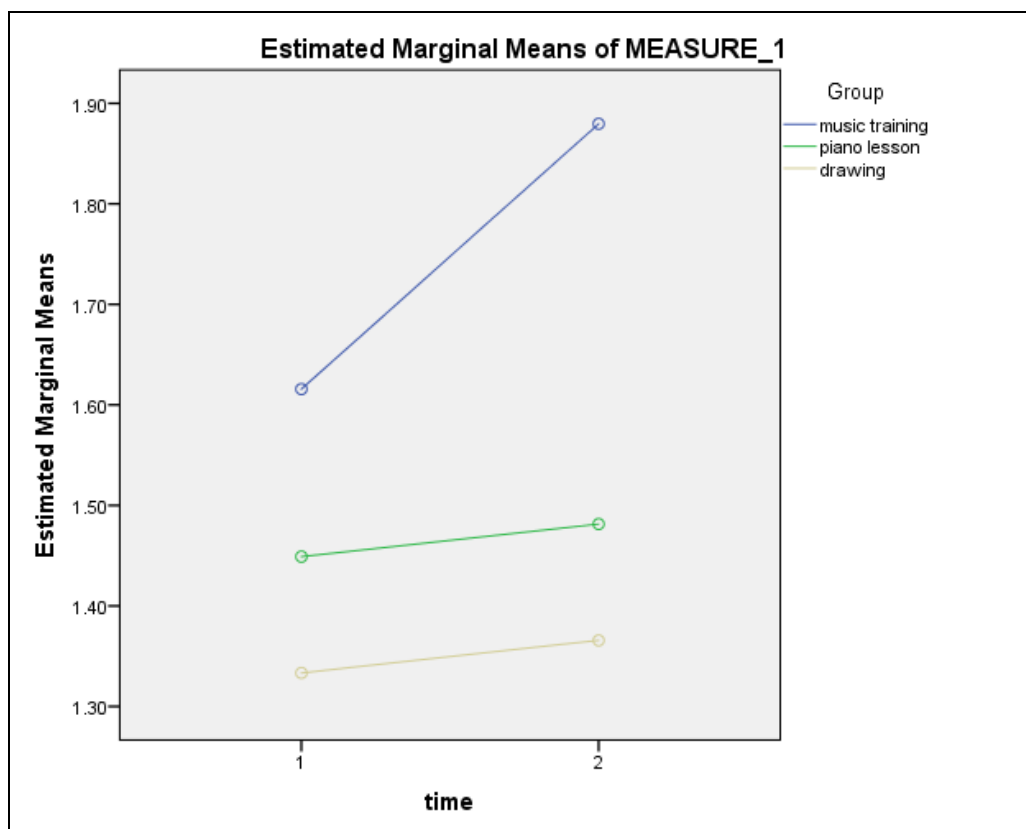


Figure 11. Comparison of mean responsibility scores
SPLIT FILE SEPARATE BY Group.
T-TEST PAIRS=res1 WITH res2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' responsibility subscale differed significantly. The effects from group music training and drawing classes on participants' responsibility subscale also differed significantly.

However, the effects from piano lessons and drawing classes on participants' responsibility subscale did not differ significantly.

v). Empathy subscale. ANOVA results indicated positive correlation between extracurricular group music training (not in individual training) and participants' empathy subscale. As shown in Table 9, Tukey post hoc tests revealed that the effects from group music training on participants' empathy subscale were significantly higher than the effects from piano lessons, with the mean difference 0.16 ($p = .08$) in the pretest and 0.28 ($p = .001$) in the posttest. The effects from group music training on participants' empathy subscale also were significantly higher than the effects from drawing classes, with the mean difference 0.50 ($p < .001$) in the pretest and 0.66 ($p < .001$) in the posttest. The effects from piano lessons on participants' empathy subscale also were significantly higher than the effects from drawing classes, with the mean difference 0.34 ($p < .001$) in the pretest and 0.38 ($p < .001$) in the posttest.

Table 9

Summary of the Mean Differences Among Groups in the Empathy Subscale

Group(I)	Pretest			Posttest	
	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI
Music Training	Piano	.16	[-.01, .33]	.28**	[.11, .46]
Music Training	Drawing	.50***	[.29, .71]	.66***	[.45, .88]
Piano	Drawing	.34***	[.13, .55]	.38***	[.17, .60]

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95%CI = 95% Confidence Interval

The principal effect of time was significant (Time $F[1, 177] = 13.01$, $p < .001$, $\eta_p^2 = 0.07$), with the mean of the 180 participants' total scores significantly increasing from pretest ($M = 7.91$, $SD = 2.82$) to posttest ($M = 8.57$, $SD = 3.02$). The principal group effect also was significant (Group: $F[2, 177] = 24.83$, $p < .001$, $\eta_p^2 = 0.22$). The 3 (group) \times 2 (time) ANOVA on the 180 participants' empathy subscale total scores revealed significant interactions between group and time ($F[2, 177] = 3.80$, $p = .024$, $\eta_p^2 = 0.04$). A

paired-sample t-test revealed that the mean empathy subscale score of group music training (Group 1) and the drawing group (Group 3) increased significantly from pretest to posttest, while the difference in the mean empathy subscale score of the piano group (Group 2) between pretest and posttest was not significant. For group music training (Group 1), the mean empathy subscale score increased by 0.19 from pretest ($M = 1.48$, $SD = 0.46$) to posttest ($M = 1.67$, $SD = 0.48$); $t(71) = -4.10$, $p < .001$. For the piano-lesson group (Group 2), the difference in the mean empathy subscale score was not significant between pretest ($M = 1.32$, $SD = 0.49$) and posttest ($M = 1.39$, $SD = 0.49$); $t(71) = -1.63$, $p = .107$. For the drawing group (Group 3), the mean empathy subscale score increased by 0.03 from pretest ($M = 0.98$, $SD = 0.20$) to posttest ($M = 1.01$, $SD = 0.16$); $t(35) = -2.24$, $p = .032$.

In Figure 12 below, different changes among the three groups can be observed from pretest to posttest. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' empathy subscale skills were the strongest, while the effects from piano lessons were slightly stronger than the effects from drawing classes.

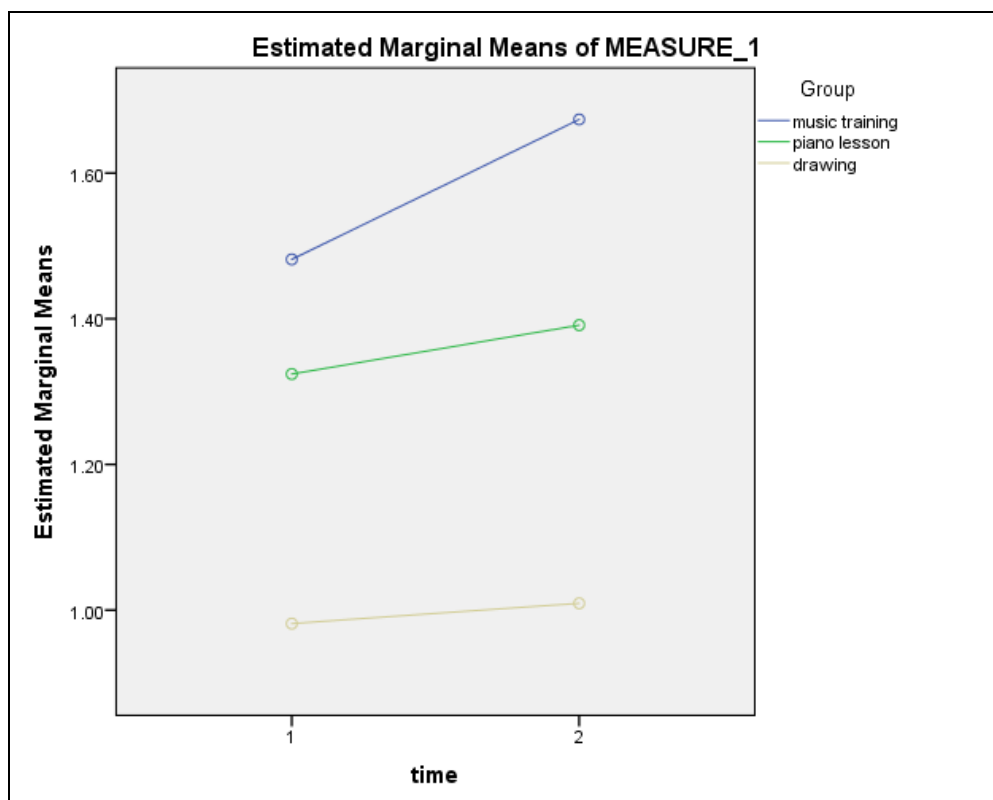


Figure 12. Comparison of mean empathy scores
SPLIT FILE SEPARATE BY Group.
T-TEST PAIRS=emp1 WITH emp2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' empathy subscale differed significantly. The effects from group music training and drawing classes on participants' empathy subscale also differed significantly.

vi). Engagement subscale. ANOVA results indicated positive correlation between extracurricular group music training (not in individual training) and participants' engagement subscale. As shown in Table 10, Tukey post hoc tests revealed that the effects from group music training on participants' engagement subscale were significantly higher than the effects from piano lessons, with the mean difference 0.03 ($p = .95$) in the pretest and 0.36 ($p < .001$) in the posttest. The effects from group music training on participants' engagement subscale also were significantly higher than the effects from drawing classes, with the mean difference 0.14 ($p = .33$) in the pretest and 0.42 ($p < .001$) in the posttest. However, effects from piano

lessons on participants' engagement subscale did not show any significant differences compared with the drawing classes, with the mean difference 0.12 ($p = .47$) in the pretest and 0.06 ($p = .78$) in the posttest.

Table 10

Summary of the Mean Differences Among Groups in the Engagement Subscale

Group(I)	Pretest			Posttest	
	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI
Music Training	Piano	.03	[-.16, .22]	.36***	[.19, .53]
Music Training	Drawing	.14	[-.09, .37]	.42***	[.21, .63]
Piano	Drawing	.12	[-.12, .35]	.06	[-.15, .27]

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95%CI = 95% Confidence Interval

The principal effect of time was significant (Time: $F[1, 177] = 46.28$, $p < .001$, $\eta_p^2 = 0.21$), with the mean of the 180 participants' total scores significantly increasing from pretest ($M = 9.38$, $SD = 3.37$) to posttest ($M = 10.70$, $SD = 3.29$). The principal group effect also was significant (Group: $F[2, 177] = 6.28$, $p = .002$, $\eta_p^2 = 0.07$). The 3 (group) \times 2 (time) ANOVA on the 180 participants' engagement subscale total scores revealed significant interactions between group and time ($F[2, 177] = 20.72$, $p < .001$, $\eta_p^2 = 0.19$). A paired-sample t-test revealed that the mean engagement subscale scores from group music training (Group 1) and the drawing group (Group 3) increased significantly from pretest to posttest, while the difference in the mean engagement subscale score of the piano group (Group 2) between pretest and posttest was not significant. For group music training (Group 1), the mean engagement subscale score increased by 0.38 from pretest ($M = 1.38$, $SD = 0.45$) to posttest ($M = 1.76$, $SD = 0.44$); $t(71) = -8.99$, $p < .001$. For the piano-lesson group (Group 2), the difference in the mean engagement subscale scores was not significant between pretest ($M = 1.35$, $SD = 0.57$) and posttest ($M = 1.40$, $SD = 0.48$); $t(71) = -1.04$, $p = .304$. For the drawing group (Group 3), the mean engagement subscale score increased by 0.10 from pretest ($M = 1.24$, $SD = 0.31$) to posttest ($M = 1.34$, $SD = 0.28$); $t(35) = -4.87$, $p < .001$.

In Figure 13 below, different changes among the three groups can be observed from pretest to posttest. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' engagement subscale skills were the strongest, the effects from drawing classes on participants' engagement subscale were the second-strongest and the effects from piano lessons on participants' engagement subscale were the weakest.

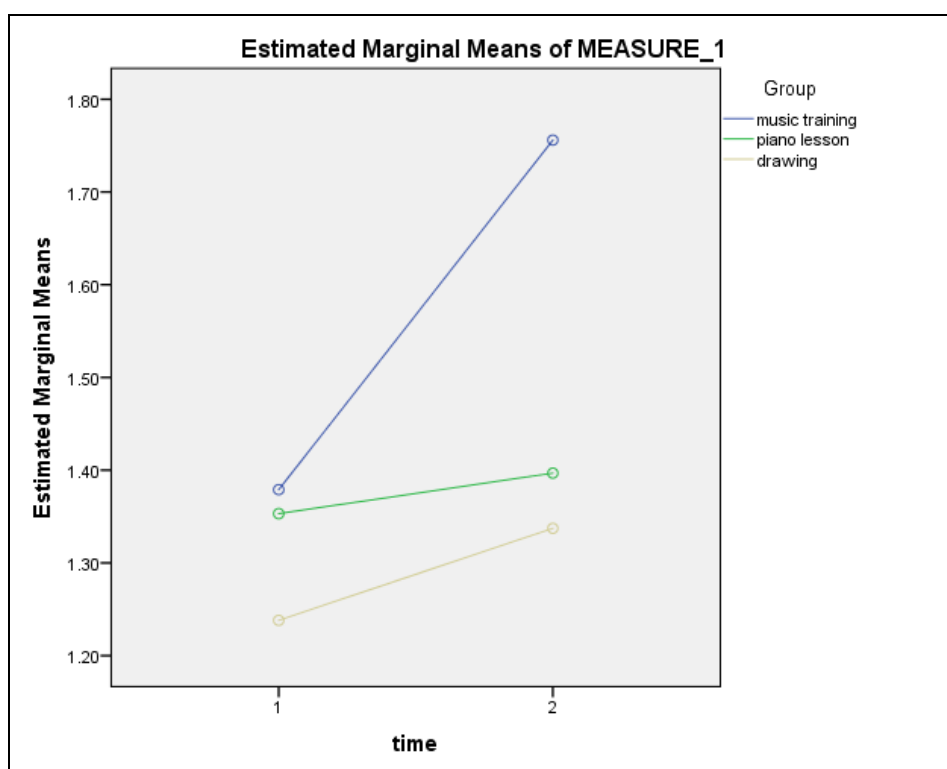


Figure 13. Comparison of mean engagement scores from the pretest and posttest
 SPLIT FILE SEPARATE BY Group.
 T-TEST PAIRS=eng1 WITH eng2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' engagement subscale differed significantly. The effects from group music training and drawing classes on participants' engagement subscale also differed significantly. However, the effects from piano lessons and drawing classes on participants' engagement subscale did not differ significantly.

vii). Self-control subscale. ANOVA results indicated positive correlation between extracurricular music training (including group and individual) and participants' self-control skills. As shown in Table 11, Tukey post hoc tests revealed that the effects from group music training on participants' self-control skills were significantly higher than the effects from piano lessons, with the mean difference 0.02 ($p = .97$) in the pretest and 0.30 ($p < .001$) in the posttest. The effects from group music training on participants' self-control skills also were significantly higher than the effects from drawing classes, with the mean difference 0.23 ($p = .02$) in the pretest and 0.54 ($p < .001$) in the posttest. The effects from piano lessons on participants' self-control skills also were significantly higher than the effects from drawing classes, with the mean difference 0.21 ($p = .03$) in the pretest and 0.24 ($p = .002$) in the posttest.

Table 11

Summary of Mean Differences Among Groups in the Self-control Subscale

Group(I)	Pretest			Posttest		
	Group(J)	MD(I – J)	95%CI	MD(I – J)	95%CI	
Music Training	Piano	.02	[-.14, .18]	.30***	[.17, .43]	
Music Training	Drawing	.23*	[.03, .42]	.54***	[.38, .70]	
Piano	Drawing	.21*	[.02, .41]	.24**	[.08, .40]	

* $p < .05$; ** $p < .01$; *** $p < .001$

MD = Mean Difference

95%CI = 95% Confidence Interval

The principal effect of time was significant (Time: $F[1, 177] = 44.82$, $p < .001$, $\eta_p^2 = 0.20$), with the mean of the 180 participants' total scores significantly increasing from pretest ($M = 9.90$, $SD = 2.91$) to posttest ($M = 11.22$, $SD = 2.68$). The principal group effect also was significant (Group: $F[2, 177] = 15.52$, $p < .001$, $\eta_p^2 = 0.15$). The 3 (group) x 2 (time) ANOVA on the 180 participants' self-control subscale total scores revealed significant interactions between group and time ($F[2, 177] = 20.46$, $p < .001$, $\eta_p^2 = 0.19$). A paired-sample t-test revealed that all three groups increased in mean self-control subscale score. For group music training (Group 1), the mean self-control subscale score increased by

0.36 from pretest ($M = 1.47$, $SD = 0.42$) to posttest ($M = 1.83$, $SD = 0.34$); $t(71) = -8.10$, $p < .001$. For the piano-lesson group (Group 2), the mean self-control subscale score increased by 0.07 from pretest ($M = 1.45$, $SD = 0.47$) to posttest ($M = 1.52$, $SD = 0.37$); $t(71) = -2.10$, $p = .039$. For the drawing group (Group 3), the mean self-control subscale score increase by 0.05 from pretest ($M = 1.24$, $SD = 0.22$) to posttest ($M = 1.29$, $SD = 0.21$); $t(35) = -3.74$, $p = .001$.

In Figure 14 below, different changes among the three groups can be observed from pretest to posttest. The group music training (Group 1) slope was the steepest, indicating that the effects from group music training on participants' self-control subscale skills were the strongest, while effects from piano lessons were very close to the effects from drawing classes, as these two groups' slopes were nearly parallel.

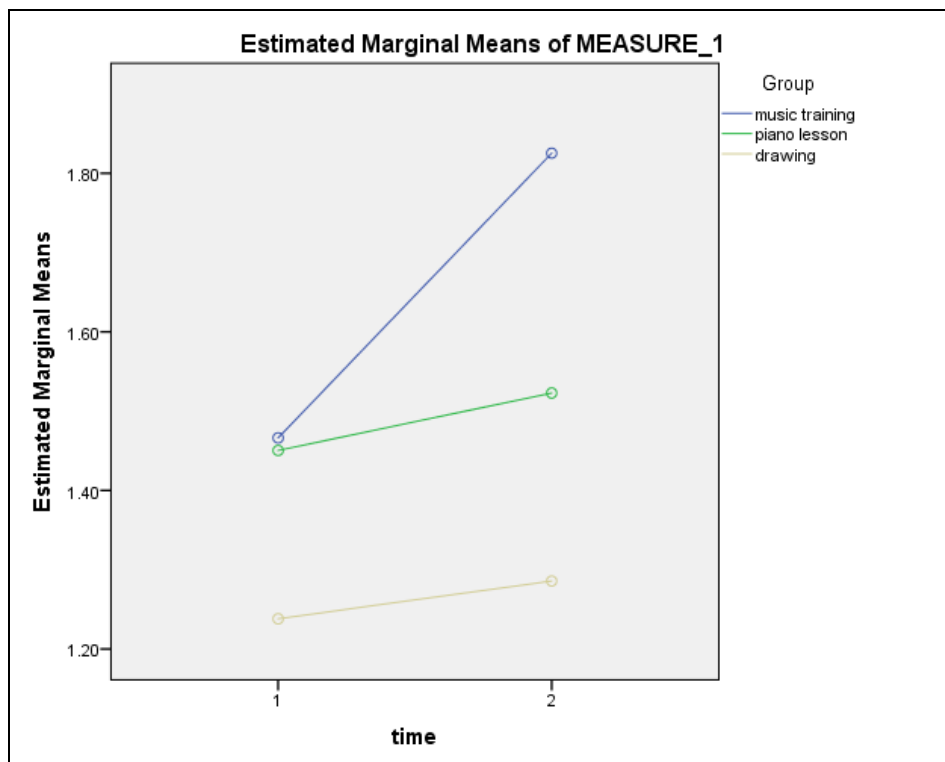


Figure 14. Comparison of mean self-control scores
SPLIT FILE SEPARATE BY Group.
T-TEST PAIRS=sc1 WITH sc2 (PAIRED)

To sum up, the effects from group music training and individual music lessons on participants' self-control skills differed significantly. The effects from group music training and drawing classes on participants' self-control skills also differed significantly.

Summary of quantitative data. Analytical results showed that the principal effect of time on each subscale was significant, and that the principal group effect on each subscale was significant, except on the assertion subscale. The results revealed that the interactions between group and time on each subscale also were significant. Paired-sample t-test results showed different changes in subscale mean scores among the three groups between the pretest and posttest. For the communication subscale, test results revealed that all three groups' communication subscale mean scores significantly increased in the posttest, with group music training (Group 1) increasing by 0.45 ($p < .001$), the piano-lesson group (Group 2) increasing by 0.13 ($p = .005$) and the drawing group (Group 3) increasing by 0.04 ($p = .006$). For the cooperation subscale, test results revealed that the group music training and piano group significantly increased the cooperation subscale mean score by 0.30 ($p < .001$) and 0.08 ($p = .046$), respectively, in the posttest, while the changes in the drawing group were not significant. For the assertion subscale, test results revealed that all three groups' assertion-subscale mean scores significantly increased in the posttest, with group music training increasing by 0.36 ($p < .001$), the piano-lesson group increasing by 0.12 ($p = .002$) and the drawing group increasing by 0.05 ($p = .001$). For the responsibility subscale, test results revealed that group music training and the drawing group significantly increased the responsibility subscale by 0.26 ($p < .001$) and (0.04, $p = .017$), respectively, in the posttest, while the piano group did not show any significant difference. For the empathy subscale, test results revealed that the group music training and the drawing group significantly increased the empathy subscale by 0.19 ($p < .001$) and 0.03 ($p = .032$), respectively, in the posttest, while

the piano group did not show any significant differences. For the engagement subscale, test results revealed that the group music training and the drawing group significantly increased the engagement subscale mean score by 0.38 ($p < .001$) and 0.10 ($p < .001$), respectively, in the posttest, while the changes in the piano group were not significant. For the self-control subscale, test results revealed that all three groups significantly increased their self-control subscale mean scores in the posttest, with group music training increasing by 0.36 ($p < .001$), the piano-lesson group increasing by 0.07 ($p = .039$) and the drawing group increasing by 0.05 ($p = .001$). A summary of changes in the seven subscales' mean scores of each group is provided in Table 12.

Table 12

Summary of the Mean Score Differences Between the Pretest and Posttest in Each Group

	Music training	Piano	Drawing
Communication	+0.45***	+0.13**	+0.04**
Cooperation	+0.30***	+0.08*	+.01
Assertion	+0.36***	+0.12**	+0.05***
Responsibility	+0.26***	+.03	+0.04*
Empathy	+0.19***	+.07	+0.03*
Engagement	+0.38***	+.04	+0.10***
Self-Control	+0.36***	+0.07*	+0.05***

* $p < .05$; ** $p < .01$; *** $p < .001$

Tukey post hoc tests revealed that the effects from group music training on participants' social skills were significantly higher than the effects from piano lessons and the drawing classes in all seven subscales. Table 13 summarises the subscales' mean difference between group music training and piano lessons in the pretest and the posttest. Table 14 summarised the subscales' mean differences between group music training and drawing classes in the pretest and posttest.

Table 13

Summary of Mean Differences Between Group Music Training and Piano Lessons

	Group(I) Music training	Group(J) Piano	MD(I-J) <i>Pretest</i>	MD(I-J) <i>Posttest</i>
Communication			.10	.42***
Cooperation			.07	.29***
Assertion			-.07	.17*

Responsibility	.17	.40***
Empathy	.16	.28**
Engagement	.03	.36***
Self-control	.02	.30***

*p < .05; **p < .01; ***p < .001

Table 14

Summary of Mean Differences Between Group Music Training and Drawing Classes

	Group(I) Music training	Group(J) Drawing	MD(I-J) <i>Pretest</i>	MD(I-J) <i>Posttest</i>
Communication			.27*	.68***
Cooperation			.21	.50***
Assertion			-.09	.23*
Responsibility			.28**	.51***
Empathy			.50***	.66***
Engagement			.14	.42***
Self-control			.23*	.54***

*p < .05; **p < .01; ***p < .001

Tukey post hoc tests revealed that effects from piano lessons on participants' social skills were significantly higher than the effects from drawing classes in four subscales including communication, cooperation, empathy and self-control while the other three subscales showed no statistically significant differences. Table 15 summarises the subscales' mean differences between the piano group and drawing group in the pretest and posttest.

Table 15

Summary of Mean Differences Between the Piano Lesson and Drawing Classes

	Group(I) Piano	Group(J) Drawing	MD(I-J) <i>Pretest</i>	MD(I-J) <i>Posttest</i>
Communication			.18	.27**
Cooperation			.14	.21*
Assertion			-.02	.06
Responsibility			.12	.12
Empathy			.34***	.38***
Engagement			.12	.06
Self-control			.21*	.24**

*p < .05; **p < .01; ***p < .001

To sum up, ANVOA results revealed that the effects were significantly positive in all seven social-skill subscales describing participants in group music training. Significant

positive effects are indicated on four subscales of participants' social skills in the piano group including communication, cooperation, assertion and self-control while significant positive effects were indicated on six subscales of participants' social skills in the drawing group. No negative effects from interventions on participants' social skills were found in all three groups. Tukey post hoc results proved that the effects from group music training on participants differed significantly from piano lessons (individual music lessons) and drawing classes (non-music group lessons). The effects from piano lessons and drawing classes differed significantly in four subscales including communication, cooperation, empathy and self-control while no significant differences were indicated in the other three subscales.

Phase 2: Qualitative data analysis. Interviewees comprised three parents and three teachers from each of the three groups, i.e., a total of 18 interviewees. The parents who were selected have at least two children, with at least one of them age 4 or 5 and both having joined different extracurricular activities so that they could provide more relevant information for this study by comparing the effects from extracurricular activities on their children's social skills. Number and age of interviewees' children are listed in Table 16.

Table 16

Number and Age Range of Interviewed Parents' children

Group	Parents	No. of children	Age range of their children
1	1A	2	2-5
1	1B	3	2-7
1	1C	2	4-6
2	2A	2	4-7
2	2B	2	5-8
2	2C	2	4-7
3	3A	3	4-8
3	3B	2	4-7
3	3C	2	4-9

The selected teachers from each group were those with at least five years of teaching

experience so that they could provide insights about their careers, roles and relationships between their teaching and young children's social skills. Interviewed teachers in group music training (Group 1) had five to twelve years of experience, the piano teachers (Group 2) had five to thirteen years and the drawing teachers (Group 3) had six to ten years, as shown in Table 17.

Table 17

Teaching Experience of Interviewed Teachers

Group	Teachers	Teaching experience (years)
1	1A	5
1	1B	8
1	1C	12
2	2A	9
2	2B	13
2	2C	5
3	3A	7
3	3B	6
3	3C	10

To learn about parents' beliefs on extracurricular activities and to understand the contexts in which parents value social skills, face-to-face individual interviews were conducted. Interview questions for teachers and parents are listed in Appendix D and Appendix E. Each interview lasted 15 to 20 minutes and was audio-recorded to ensure accuracy and better transcription. Interviews were conducted in Cantonese, in this thesis, I have translated all quotations from Cantonese into English. Each interviewee was given a transcript of his or her interview to check its accuracy and confirm permission for use in this study. Analysis of qualitative data from interviews was based on teachers and parents' responses and class observation was mainly according to the social skills subscales. Narrative analysis (Earthy & Cronin, 2008) was used in this study.

Parents' perceptions of social skills. Children learn social skills naturally through daily live and caregivers, thus, parents' perception may affect their children's social skills development. Based on Group 1 (group music training) parents' responses, social skills

include communication, cooperation, teamwork and interaction. Parent 1A has a broader understanding of social skills than other parents, she pointed out that social skills include communication, interaction, and cooperation abilities, as well as assertiveness, empathy and self-control. She was the only parent who mentioned the final three aspects:

‘I think social skills include how you talk and interact with people, how to communicate your thoughts and feelings, how to express your feelings through body language, how to understand people’s intentions and feelings from their actions and talk, how to manage and control our emotions...’

(Parent 1A).

Parents in Group 2 (piano lessons) and Group 3 (drawing classes) indicated that we use social skills when we talk to people (communication), work with others (cooperation) and make friends with others, while Parent 3C mentioned the ability to convey thoughts and feelings:

‘I think people who have good social skills can easily start a conversation and make friends with people easily...can work with others easily...’ (Parent 2B).

‘I think social skills are communication skills, the ability to communicate your thoughts and feelings clearly...and to work with others’ (Parent 3C).

According to what the parents said, they agreed that children would learn social skills eventually through interactions with siblings. However, some indicated that interactions among siblings and peers are different:

‘My three kids always fight and argue...I want them to interact with peers.

They behave well when they are outside (away from home); they won’t fight with their friends...’ (Parent 1B).

‘I think children can acquire social skills in daily life naturally, but I still want them to have interactions with other children as early as possible...’ (Parent 2A).

‘Although I have two kids, I still want my children to learn social skills in extracurricular lessons because I think interactions among siblings and peers are different...My two children will quarrel or fight, and they do not want to share toys at home. However, they are willing to share their toys with peers, and they will not fight with their friends...’ (Parent 3C).

Based on parents’ responses, their perceptions of social skills were similar. The common terms that they mentioned were communication, cooperation and interaction. Interestingly, only parents from group music training (Group 1) mentioned teamwork. Based on my class observations, children played in ensembles in the music training classes, and teachers mentioned teamwork. Students in drawing classes worked on their own drawings or artworks; they never worked together to create one artwork. This might be one reason why only parents from group music training mentioned teamwork. Another interesting point was that more than half of the interviewed parents think that interactions among siblings and peers are different, which might be one of the reasons why Hong Kong parents are eager to send their young children to playgroups.

Reasons to join extracurricular activities. The reasons for parents to sign their

children up for the extracurricular activities might affect their choice on the activities. For instance, parents who concerned more about children's social skills than one specific skill such as instrumental playing skill might choose group music lessons instead of individual instrumental lessons. According to Group 1 (group music training) parents, they sent their children to playgroups between ages 18 months to 2 years, mainly for fun and to make new friends. All their children joined more than one extracurricular activity. The reasons that they cited for sending their children to extracurricular lessons were to explore interests, have fun, reinforce their academic learning and/or meet primary schools' requirement that they learn a second musical instrument:

'My first child joined different play groups when she was 18 months old until she attended nursery school...playgroups are for fun and meeting more people....Furthermore, I think my children can have more interactions with the teacher and friends in small-class teaching in playgroups than in the kindergarten....At 4.5 years old, she joined a music course, and phonics....My second child is now 2 years old, and she attends two playgroups currently....Children must learn more than what they can learn from kindergartens, so that it would be easier for them to catch up in primary one...'

(Parent 1A).

'My first child joined a few playgroups for fun and to meet new friends when he was 2 years old...he started to take piano lessons at the age of 4...and he joined phonics, mathematics, violin and swimming classes when he entered primary school....Students must learn a second instrument at his primary school....My second child entered a music course; he takes swimming lessons

too. I think the music course is for enjoyment and interests, and swimming is for fun and life skill....I think interactions in kindergartens were not sufficient because of the class size...I think there will be more interactions between the teacher and my children in a small class teaching extracurricular activities....My third child is only 2 years old now; she joined only two playgroups. I want him to meet more friends and interact with peers and have fun...' (Parent 1B).

'Both of my children joined playgroups when they were about 2 years old, just for fun and meeting new friends....Both of them joined the music course. My first child already completed the course; she takes a drawing class and ballet lessons currently....I'm not sure of her interests yet; I'm just letting her try and explore...Besides a music course, my second child also takes English lessons now. I think my children really enjoyed learning music with peers; that's why I let my second child join the music course...' (Parent 1C).

According to Group 2 (piano lessons) parents, they all sent their children to playgroups for fun and to interact with peers when they were toddlers. Like Group 1, all their children joined extracurricular activities, and more than half of their children joined more than one extracurricular activity. They indicated that their children joined extracurricular activities to explore interests, interact with peers, support academic learning and abilities, and meet some primary schools' requirements. Parent 2B mentioned self-experience, as she learned how to play the piano when she was young. She also talked about patience and persistence, and hoped that these skills would benefit her children's academic learning:

‘Both of my children joined playgroups for a few months when they were 18 months to 2 years old, mainly for fun and to meet more people...They take piano lessons currently. My first child started at about 4 years old, and my second child started at 5 years old....I learned to play piano for over 20 years....It made me become more persistent...and I hope my children can be more patient, more focussed and be more persistent....It would benefit their academic learning as well...’ (Parent 2B).

‘Both of my children joined playgroups when they were about 2 years old; they just joined for fun and to interact with peers...They started to learn piano at the age of 4. My first child started to learn violin in primary one, which is compulsory at his school. Students must learn a second instrument....Besides piano lessons, my second child also started phonics lessons recently...’ (Parent 2A).

‘Both of my children joined a few playgroups on and off when they were about 1 year old until nursery stage...mainly for fun, to interact with other children and to learn discipline....Both of them learned how to play the piano. My first child has learned phonics and Putonghua because I think it would help her academic learning...Piano lessons are a very basic requirement nowadays....As far as I know, some primary schools ask their students to learn a second instrument...’ (Parent 2C).

Based on what Group 3 (drawing classes) parents said, they let their children join extracurricular activities for enjoyment, to cultivate interests and to meet primary-school

requirements. Parent 3C mentioned practice and pressure, and claimed that she would choose activities that did not require much practice, so that her children would not feel stressed:

‘All my three children joined playgroups when they were toddlers. I want them to meet more friends....My first child started piano lessons when she was 5 years old...Not sure if he likes it or not. I just want to let him try....My second child likes drawing very much. If you give him paper and a pen, he can draw anytime, anywhere....That’s the reason I sent him to drawing class...My third child is only 3 years old and has joined one music course...’ (Parent 3A).

‘My first child joined playgroups when she was 2 years old, but my second child didn’t join any playgroup because I don’t see the benefits from my first child’s experience, and we were too busy with two children at that time...My older child joined drawing class in preschool, but quit when she entered primary school—too busy for her....She started to learn violin in primary one. The violin class is an after-school activity. Students were asked to learn one instrument...she joined phonics class as well. My younger child joined drawing class...I sent my daughter to drawing class to see whether she likes it or not...I just want to let her try’ (Parent 3B).

‘My two children joined one or two playgroups before they entered nursery school. My older child joined dancing class and drama—not sure about her interests yet... I chose these two classes, as I don’t think much practice is needed....I sent my younger son to drawing class because I think drawing doesn’t need practice, so he will not feel any pressure....I hope he can enjoy

learning something without any pressure...’ (Parent 3C).

Based on parents’ responses, they sent their children to playgroups before nursery level in kindergarten (K1) to have fun and make new friends (interactions with peers). According to what parents said, they sent all their children to extracurricular activities to explore their interests, reinforce their academic learning, meet school requirements and have fun. Interestingly, only parents in the group music training and piano groups indicated that extracurricular activities would back up academic learning, and they also said they worried about the connection between kindergarten and primary education. According to the parents, the average class size in Hong Kong kindergartens is 25 to 35 students, and they think interaction between teachers and students is not sufficient at these class sizes. Furthermore, parents think teaching content is diverse among different kindergartens, although the Education Bureau recommends using the *Kindergarten Curriculum Guide* (CDC, 2017) in kindergartens. This might be one reason why parents think that their children have not learned sufficient knowledge in kindergarten, and they are eager to send their children to extracurricular activities to better prepare them for primary education. Based on my class observations and data collected in the interviews, parents in the drawing group were concerned about their children’s interests and enjoyment, while music parents were more concerned about achievements, including grade exams and competitions. Furthermore, music parents’ children participated in more extracurricular activities than drawing-group parents’ children, indicating that music parents may be more aggressive in steering their children toward extracurricular activities than parents in the drawing group. Based on what parents reported, regular practice is an extra burden for their children. One of the drawing-group parents said practice was one of her concerns when she chose extracurricular activities for her children. Parents might feel more willing to let their children join activities if they think little

practice is required. Collected data showed that about half the interviewed parents let their children learn to play an instrument to meet their primary schools' requirement, which was consistent with primary-education practice in Hong Kong.

Parents' expectations for extracurricular activities. Parents' expectation for extracurricular activities might influence their choice of activities for their children. For instance, parents who expect their children can have interactions with peers in extracurricular activities might choose group lessons whilst parents who expect their children to learn specific skills such as instrumental playing skills might choose individual lessons. All the interviewed parents think that children can learn social skills in group lessons, especially when taught in small classes. According to Group 1 (group music training) parents, their expectations of music training entail not only providing musical abilities and enjoyment, but also enhancing their children's discipline, concentration and learning abilities, communication skills and self-confidence, as well as increasing interactions with friends and the teacher in class. Parent 1B said she expects music training to enhance her children's concentration and learning abilities to facilitate academic learning:

'I hope small-class teaching of group music training can help my daughter learn more effectively and that the class teacher can take care of my daughter's needs and learning progress....I hope my daughter will have more interactions with the teacher and her friends in class, so that my daughter can learn how to communicate with peers and how to express her feelings in class....Of course, I want her to enjoy learning music with peers...' (Parent 1A).

'I hope my son will learn not only music knowledge and playing skills in the music course, but also teamwork, cooperation, communication, interaction and

creativity....I think music learning can enhance my son's concentration ability and learning ability...which will benefit his academic learning too....I think it's more fun to learn music with friends than individual lessons...especially for young kids...' (Parent 1B).

'My older child really enjoyed this music course. I hope my second child will enjoy learning music with friends too....I think young kids cannot take private (instrumental) lessons yet, which may be too heavy and boring for them....I hope that this course can enhance his interest in music and instil confidence, and that with this foundation, he may learn to play an instrument later...' (Parent 1C).

All Group 2 (piano lessons) parents did not think that piano lessons would enhance children's social skills. Their expectations for piano lessons resembled those in other groups, except that social skills were not a priority. They expect that their children will realise tangible achievements, such as high grades on examinations, to meet their schools' requirements. Parent 2B cited other skills—such as discipline, patience and concentration—and expected piano lessons to enhance these skills:

'I don't think piano lessons will help my son's social skills because I don't think my son will talk a lot during the lessons....I think mainly, the teacher talks and tells my son how and what to do in the lessons....I expect my children will take exams and at least achieve ABRSM Gd 8....I think this is very basic....My children's (primary) school requires students to learn two instruments....Of course, I hope they would enjoy playing piano eventually...' (Parent 2A).

‘I don’t think piano lessons will benefit children’s social skills....I don’t expect my children to be pianists....I only hope that my children will be more persistent, patient, focussed and have discipline. These abilities are very important...not only for academic, but also for personal development...’
(Parent 2B).

‘I have never thought that piano lessons can enhance social skills....I send my daughter to the lessons because I want her to learn to play the piano, as this is a basic requirement of some (primary) schools...and of course, I hope she can take the exam step by step...’ (Parent 2C).

Group 3 (drawing) parents did not mention social skills as part of their expectations on drawing classes. Their expectations were similar, as they expect their children to enjoy drawing, with two parents mentioning concentration, creativity and problem-solving skills, and one parent expecting her child to express her thoughts through drawing:

‘I didn’t consider other skills that my child can learn from the drawing class. As long as he is happy to draw, that would be fine to me...’ (Parent 3A).

‘I think drawing class will enhance children’s concentration because they need to focus when they are drawing...and I did some research on social media. They (art schools) claim that drawing class can enhance creativity, concentration and problem-solving skills....I hope my child can express her thoughts through drawing, and I hope she likes drawing...’ (Parent 3B).

‘I found that my younger son likes drawing very much. I hope he can do what he likes to do...The drawing class that my son has joined was very creative; children can express their thoughts through their drawings and are not forced to draw in a fixed way....Besides drawing, I hope he can learn problem-solving skills and creativity in the drawing class....That’s what I read from the drawing school’s website...’ (Parent 3C).

Based on parents’ responses, their expectations on extracurricular activities were similar within each studied group, but varied between groups. Parents from the group music training and drawing groups expect the extracurricular lessons to enhance personal skills, but the skills that they expect differed. Parents from group music training expect children’s personal skills—such as discipline, concentration and learning abilities, communication skills and self-confidence—to be enhanced, while the drawing-group parents expected that concentration, creativity and problem-solving skills would be developed. Parents in the piano group mainly expect their children to realise tangible achievements and meet school requirements. One of them mentioned discipline, patience and concentration as qualities that their children should gain. Interestingly, compared with drawing-group parents, music parents have clear expectations and intentions tied to their children’s extracurricular activities, possibly because music parents have experience either from their older children’s early years with music, or they have learned music themselves and are more aggressive in managing their children’s extracurricular activities than the drawing parents.

Parents’ observations of extracurricular activities’ effects on their children. Parents’ observation of extracurricular activities’ effects on their children would help to triangulate with the quantitative data in this study. According to Group 1 (group music training) parents, they all indicated that their children enjoy attending music training classes. Interestingly,

parents' observations of effects from music training on their children varied. Parent 1A indicated that music training affected her child positively. Parent 1B compared her first child and second child; she believed that group music training affected her second child's social skills and self-confidence positively. However, Parent 1C said the effects on children's social skills were very limited, basing her views on classroom observations, reporting that interactions among children and the teacher were limited:

'I'm not sure whether the effects came from music training or not....After attending the music training for around six months, my child is now brave enough to convey her thoughts and feelings....She says "hello" to friends and neighbours by herself...and she is willing to play or sing in front of friends and us....There are lots of interactions among the children, teacher and parents in the music training class....I think my daughter enjoys the music class; she enjoys listening to the music (CDs) and sings along sometimes....I'm glad that she likes music...' (Parent 1A).

'I think music-training class really benefits my child's social skills and confidence....My first child only takes individual instrumental lessons, while my second child has joined music training class....Obviously, my second child is more confident and aggressive....Whenever the teacher asks questions, he is the first one to raise his hand....I feel that interactions among children and teachers are really helpful to my child's social skills, and to perform in class can build up children's self-confidence....Compared with my second child, my first child (who takes piano and violin lessons) is more conservative; he tends to observe others' actions before he takes any actions, perhaps because he is

afraid of making mistakes....Practising is another problem. My first child was struggling in the beginning stages....My second child is better, as learning to play a keyboard is not as demanding in group music training. He can learn various musical abilities, such as singing and aural training....It's less stressful for children compared with individual instrumental lessons, especially young children...' (Parent 1B).

'Perhaps there are some positive effects from music training on my child's social skills, but I would say they are limited, as it's a music-training programme (class) and is not designed for social-skills training, with the class only once a week.... Based on my observations, interactions among children are limited....Most of the time, the teacher tells the children what to do....However, I think my child enjoys learning the music course, and I'm satisfied with the course content, so I will continue...' (Parent 1C).

None of the Group 2 (piano lessons) parents observed any effects from piano lessons on their children's social skills. Two indicated that their older children (siblings of participants in this study) became more patient, focussed and disciplined with school work, as well as with regular piano practice, after taking piano lessons for three to four years. However, they could not confirm whether these changes came from piano lessons. They did not observe any obvious effects yet on their younger children (participants in this study). Parent 2C said she did not observe any effects from piano lessons on her children's personal development yet, and her children have practice problems. Because of school requirements, she wants her children to continue their piano lessons:

'My first child took piano lessons for three years and violin for about one year.

My second child took piano lessons for six months, I didn't observe any effects from piano lessons on my children's social skills so far....My older child is doing quite well in academic learning, and she has good discipline in her regular practice in piano and school work, achieving piano grade three (ABRSM)....I'm not sure whether the instrumental lessons benefit her learning ability and discipline, but she (older child) is doing well so far....However, I have not observed any special effects from piano lessons on my second child's development yet...' (Parent 2A).

'My first child started piano lessons when she was 4 years old, and now she is 8 years old and quite talkative and very active in kindergarten....I feel that she became more patient and focussed on her academic learning starting last year (primary two)...although I'm not very sure whether it's her natural growth or the benefits from the piano lessons, or both....From my own experience, I believe that part of her improvement might have come from the piano lessons....My second child can play some easy pieces, and he is not reluctant to play so far....Although I did not observe any effects from piano learning on my second child's personal skills yet, I think it might be because she was still too young....I hope she will become more focussed and be more patient after a longer period of time...' (Parent 2B).

'Both of my children take piano lessons—my first child for about three years, and my younger child just started about six months ago....I cannot tell whether there are any effects from piano lessons on their social skills or discipline....Sometimes they don't want to practise...but I don't want them to

give up as this is a school requirement. At least they have to learn until they have completed primary school...' (Parent 2C).

Parents in Group 3 (drawing classes) said their children have learned drawing skills in the classes, with all of them noting that they did not observe any obvious improvements in problem-solving skills, creativity or concentration like they expected. However, Parent 3C said her child showed improvement in conveying her thoughts and feelings, and this parent mentioned 'making friends with others'. In short, one of them mentioned social skills had improved, but they all thought that positive effects on problem-solving skills, creativity and concentration may surface over time:

'My son showed me a completed painting after every drawing class. I'm really happy about that...I don't sense any effects from drawing class on my son's problem-solving skills or creativity yet....From his artwork, I think drawing class will enhance my son's creativity—perhaps he just needs more time....My older child has taken piano lessons for about three years....She is more focussed than my second child, but I'm not sure whether piano lessons have any effect on this....Perhaps it's the natural difference between boys and girls...' (Parent 3A).

'My child has learned drawing skills in the drawing class. Basically, she can finish one drawing in each of the lessons....I can't tell whether this drawing class has affected my daughter's creativity or concentration yet....I will keep this drawing class as long as my daughter wants to continue...and I think her creativity and concentration can be enhanced after a longer period of time,

maybe one or two years....My first child has been learning violin for about two years. I can't say that she loves to play, but she didn't say no....I could only tell that violin lessons satisfy her music subject in school—not sure whether there are any other benefits so far...' (Parent 3B).

'My son really enjoys the drawing class, and he has completed many drawings in the past six months....Although I cannot find any examples of improvement in his creativity and problem-solving skills, I feel that he is more eager to convey his thoughts and feelings....I'm surprised to see this outcome....He told me what has happened after class quite often, so I guess he really enjoys attending the drawing class, and he makes friends with his classmates in class....My first child attended dancing class for three years and drama class for about two years. Obviously, she is more outgoing and not as shy as before...although I'm not sure whether these were outcomes from these activities, but I think that they might help in some way...' (Parent 3C).

Based on parents' responses, two parents from group music training observed improvements in their children's social skills after taking group music training. However, one of their children took a phonics class as well. Although this parent (1A) said group music training improved her child's social skills, the possible effects from the phonics class include the fact that it was a group lesson, like group music training. Generally, parents from group music training conveyed what they observed in class better than parents from the piano and drawing groups. It was not surprising because parents were required to accompany their children when they attended the group music training classes.

Interestingly, according to the parents, interactions between students and the teacher

varied. It depended on teachers' instructional approach. Based on my class observations, this might be because teachers' instructional approach, classroom management and teachers' personality varied. All these factors affected class interactions. Interestingly, one of the parents (Parent 3C) indicated that her older child became more outgoing after attending dancing and drama classes, consistent with previous studies (Bougiesi, Zisi, Grigoriou & Pollatou, 2011; Freeman, 2000; Genti, Goulimaris & Yfantidou, 2009; Goulimaris, Mavridis, Genti & Rokka, 2014; Landy, 1982). Based on the data collected, parents in the piano group mentioned achievements, such as achieve grades in piano exams and academic learning, more than the other parents, while parents from group music training and the drawing group might have been more concerned about their children's enjoyment and interests, as they mentioned their children's feelings about the extracurricular activities. Interestingly, although some parents said they did not observe the effects that they expected, they all believe that effects may occur after a longer period of time. Thus, they all claimed that they would let their children continue participating in the extracurricular activities. Although the parents mentioned enjoyment when they were asked about participating in extracurricular lessons, the parents tended to let their kids continue attending extracurricular activities for certain reasons, even when they found that their children were not having fun. Based on what Parent 2C said, she kept sending her children to piano lessons, even though they both were reluctant to practise.

Teachers' perceptions of social skills. An understanding of teachers' perceptions of social skills would help to triangulate with the quantitative data. According to the data collected, teachers in Group 1 (group music training) used the terms 'communication and presentation skills', 'interaction', 'cooperation', 'teamwork', 'discipline' and 'proper behaviour' when they were asked to explain social skills. Teacher 1A mentioned 'empathy',

and how she learned this concept from readings:

‘I think social skills include communication, teamwork, cooperation and discipline....and empathy....I have read some books about young children’s development when my child was born a few years ago...’ (Teacher 1A).

‘Social skills are abilities to communicate with others, presentation, cooperation, discipline and teamwork...’ (Teacher 1B).

‘Social skills include communication ability, cooperation, proper manners, discipline, presentation skills, making friends with others, teamwork...’ (Teacher 1C).

According to Group 2 (piano lessons) teachers, their perceptions of social skills resembled those of Group 1. However, no teachers in Group 2 mentioned discipline when they were asked to describe social skills, having cited communication skills, the ability to work with others and proper behaviour. They also used the terms ‘communication skills’, ‘interaction’ and ‘cooperation’. One of the teachers (2B) mentioned ‘teamwork’, ‘proper manners’ and ‘presentation skills’:

‘To me, social skills include the ability to work with others, talk to others (communication), cooperate with others, proper behaviour...’ (Teacher 2A).

‘I think social skills include communication skills, interaction, cooperation (working with others), proper social manners, self-control and presentation skills....I read some articles about this topic when I was studying in

university...’ (Teacher 2B).

‘I think social skills include communication skills, cooperation skills, interacting with others easily, the ability to make friends with others...’
(Teacher 2C).

Based on what teachers said, Group 3 (drawing) teachers think that social skills include communication skills, how to work with others, personal interaction, teamwork, cooperation, proper manners and making friends with others; none of them mentioned discipline:

‘Social skills include talking with others easily (communication skills), the ability to work and interact with others, proper manners...’ (Teacher 3A).

‘I think social skills include communication skills, interaction, cooperation skills, teamwork, proper manners...’ (Teacher 3B).

‘I think social skills include communication skills, interaction, cooperation...and making friends with others...’ (Teacher 3C).

To sum up, according to teachers’ responses, their perceptions of social skills were similar. All the teachers mentioned ‘communication’, ‘interaction’, ‘cooperation’, ‘teamwork’ and ‘proper manners’, with only group music training teachers mentioning discipline. Based on my class observations, various musical activities were included in each of the group music training lessons. Furthermore, students played music on their keyboards together in class, and their discipline would affect the lessons’ quality. Therefore, it is understandable that group

music training teachers care about students' discipline more than teachers in the other two groups.

Teachers' perceptions of their role and responsibilities. An understanding of teachers' perceptions of their role and responsibilities would help to triangulate with the quantitative data. Based on what teachers said, they all think that their major role is to teach their students the specific skills of their profession. According to Group 1 (group music training) teachers, besides musical abilities, they feel that they also should be patient, tolerant, cheerful, positive and optimistic, with one mentioning being well-behaved. They think that they should be able not only to teach course content, but that they also should be adept at classroom management. They indicated that to make their teaching experience smooth, they need to teach students about discipline, cooperation, teamwork, taking turns, sharing, compromising and basic manners in class. However, they all claimed that they could not spend too much time on these aspects, as their focus is on music itself. They also said that it was not easy to manage students' problem behaviours sometimes, especially if students with special needs were part of the class. Based on their descriptions, the work they could do depended on the classroom situation and conditions, as well as parents. In short, teachers from group music training think that they have the responsibility to teach students course content, along with personal skills, including discipline, cooperation, teamwork, sharing, compromise, taking turns and basic manners, as these issues are included as part of classroom management:

'I think my major duty is to teach music, so music must be the first priority in my teaching....To teach young children, I need to be patient, kind, positive....As a group lesson music teacher, I need to fix students' problem behaviours so that my teaching can go smoothly...but it depends. Sometimes it's really hard....I used to have an ADHD (attention deficit hyperactivity

disorder) student in my class, and I didn't know what to do....I only knew that I could not force him to do anything....Fortunately, the parent helped control her child....Sometimes she had to take her child out of the classroom if he was too disruptive...but he finally quit because he was unable to keep up with the class...' (Teacher 1A).

'I would say that I need to teach basic manners such as taking turns, discipline and compromise in my lessons. For example, students will take turns playing or singing in class, and they need to vote to make some decisions when they have different ideas....However, my focus is on music, so I can't spend too much time on these issues... As my students are very young (preschool), I must be kind, patient and sometimes very tolerant when they are naughty....I must be cheerful even if their performances are not what I expected...'
(Teacher 1B).

'I think students would learn some social skills eventually in a group lesson through activities and interactions in class....They will observe each other too....Of course, music is the major focus in my lessons. I won't spend too much time on other issues, but I must manage students' behaviour in class....For example, I used to have students with special needs (autism) in class; it was very tough for me because I'm not trained in how to teach students with special needs....All I can do is treat these students as normal students and try to talk with the parents and see how I can help...' (Teacher 1C).

Teachers in Group 2 (piano lessons) think that they should teach playing skills and

musical knowledge in their lessons. Based on their opinions, they also think that piano teachers should be patient, positive and responsible with students' learning progress and achievements. They think that piano lessons can enhance students' piano-playing skills, musical knowledge and musical sense; students would be more persistent and focussed after learning for a long period of time (at least three years). Students should achieve tangible learning outcomes, such as grade examinations and participation in competitions. None of them mentioned teaching other skills or aspects, such as discipline, cooperation, sharing and behaving properly in class. If they found that their students had behavioural problems, they would talk to their parents, rather than try to fix students' behavioural problems themselves. They said that they felt they are piano teachers who are not responsible for students' behavioural problems and believe that they should not be expected to teach other skills or fix any problems that are not related to piano playing during a piano lesson. In short, teachers in Group 2 think that their principal role is to teach piano-playing skills and musical abilities:

‘As a piano teacher, I think that my role is to teach piano-playing skills and musical knowledge...In my experience, students would be more persistent and focussed after learning for three or four years.... We must be patient and positive, even when students cannot play well....We are responsible for students' progress and achievements....If students have problems with their learning progress or other issues, I would talk with the parents....I need to let the parents know what's going on...’ (Teacher 2A).

‘We need to be patient and kind, especially if students are young children....Good communication with parents is also important, as they need to know about their children's learning progress on grade exams and in

competitions, among other goals....In my experience, most parents want to see tangible results...' (Teacher 2B).

'As a piano teacher, I think I'm responsible for students' learning outcomes and achievements....Besides piano-playing skills, students would become more concentrated and persistence on practice after learning for a few years.... I will talk with the parents if students have learning issues or other problems, as they need to be informed if anything goes wrong....I hope parents could help to solve these problems...' (Teacher 2C).

Teachers in Group 3 (drawing) think that their major role is to teach students drawing skills, and they believe drawing classes can enhance creative-thinking and problem-solving skills—beliefs that stem from their teacher training. Students' learning outcomes with drawing skills easily can be observed in their paintings and artwork. Like the group music training teachers, they also have self-requirements such as being patient, cheerful, positive, tolerant and optimistic. They all agreed that they must handle students' behavioural problems sometimes; thus, they teach discipline and proper manners in their classes. Two of them said that they also teach sharing, cooperation and taking turns, as students need to share and take turns using tools such as paint, other art materials and hair dryers (to blow-dry their painting), while one teacher did not mention these aspects. To sum up, all teachers in Group 3 think that their role is to teach students drawing skills, discipline and proper manners, and two said they should teach sharing, cooperation and taking turns as well:

'As a teacher of young children, I think I should be positive, cheerful, patient and tolerant....At the same time, we need to monitor their learning progress....I want my students to have good discipline so that they won't

argue or have problem behaviours....Otherwise, they cannot follow my instructions in class, and they cannot complete their drawing from the lesson...' (Teacher 3A).

'We (teachers) must be patient, cheerful and positive; we should not give negative comments to students....Students must take turns using paint, art materials and painting tools sometimes. I will teach them how to take turns and share tools...so they learn basic manners eventually...' (Teacher 3B).

'My role is to teach drawing....I should manage the class well....I must be patient and kind....I think students learn sharing, taking turns, cooperation and discipline in group lessons eventually...' (Teacher 3C).

Based on teachers' responses, group music training teachers and drawing teachers share similar perceptions of their roles and responsibilities, indicating that classroom management is one of their responsibilities. This was not surprising, as they teach group lessons, while piano teachers do not have this concern, as they teach students individually. However, based on the qualitative data and class observations, most of the teaching in drawing classes was teacher-led, with little interaction among students facilitated by the teacher. The nature of classroom management was a bit different between group music training (Group 1) and drawing classes (Group 3). Generally, group music training teachers encouraged more interaction among children than drawing-class teachers. Interestingly, the piano teachers tend to talk to parents about students' problems, rather than try to fix these problems themselves, while group music training teachers and drawing teachers try to fix problems themselves in class, viewing this as part of their responsibilities. Furthermore, only piano teachers

mentioned tangible achievements such as grade examinations and participation in competitions.

Teachers' perceptions of effects from their lessons on young children's social skills.

Teachers' perception of their work-related psychological experiences were associated with their implementation of a social-emotion curriculum (Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009). Thus, teachers' perception of effects from their lessons on young children's social skills might affect their teaching approach in their lesson. As a consequence, the effects of their lessons on students' social skills might be different. Based on what teachers said, all three teachers in Group 1 (group music training) believe that students can learn social skills during their lessons, i.e., their perspectives were similar. They all agreed that they need to teach social skills such as taking turns, sharing, teamwork, cooperation and proper manners in class to make their teaching more smooth and effective. One teacher (Teacher 1C) mentioned students' empathy and friendship among students in her advanced classes. However, music comprises the bulk of their lessons; students' social skills to them are issues that fall under classroom management. Therefore, the focus of their teaching is music itself, not social skills. As students learn social skills through interactions in class naturally, during their own experiences, students' improvement on social skills only could be observed after several months or over an even longer period of time. Students observe and learn from each other in class, and teachers think that they are the key people to teach proper manners and behaviour in class. Based on their descriptions, outcomes mainly depend on class conditions and situations; students' improvement trajectories differed, as did the time needed to improve. The teachers indicated that generally, the longer the period, the better the improvements in students' social skills that could be observed:

‘I think students will learn discipline, teamwork and social skills through

interactions in class....I can give you an example. Some of my students kept talking and running around in class when they just joined the class. After book one (20 weeks), they were able to behave themselves in class....I believe that they observed their classmates' behaviour and performance...and learned and imitated the good students, who always elicited praise from me and their parents....Now they have improved a lot, and they can listen to my instructions and give positive responses...' (Teacher 1A).

'Naughty students will learn from the good students. On the other hand, good students will imitate naughty students too....Usually, I praise the good students, and the naughty ones will behave themselves because they want me to praise them....Parents help control their children sometimes...so, it all depends on the class situation and condition' (Teacher 1B).

'I think students learn teamwork and cooperation, as they must work out something together, and they play ensemble together...older students (primary students) are concerned with others' feelings (empathy). I can see their friendship in their conversations and interactions in my advanced classes...' (Teacher 1C).

All three teachers in Group 2 do not think that their lessons affect students' social skills, but they do believe that piano lessons possibly affect students' discipline, concentration, patience and self-confidence, as they think that learning to play the piano enhances these skills and abilities. One of them (Teacher 2B) thinks that interactions occur in her lessons, but none thinks that students learn teamwork, cooperation, taking turns and sharing during piano

lessons:

‘I think students’ concentration improves, and they could become more patient after learning to play the piano for several years...Daily practice requires discipline and patience as well...’ (Teacher 2A).

‘I think we have interactions between me and my students in my lessons, as teaching and learning are a form of interaction...but this kind of interaction may be different from interactions between peers in group lessons...’ (Teacher 2B).

‘I don’t think piano lessons enhance students’ social skills, as only my student and myself are present during the lessons...’ (Teacher 2C).

Group 3 (drawing) teachers’ perceptions of the relationship between their lessons and students’ social skills were diverse. One of them (3A) focussed on teaching drawing skills and cared about discipline deeply. This teacher thinks that no relationship exists between drawing classes and students’ social skills. She does not want her students to talk too much in class because she wants them to finish their drawing/artwork during each lesson. The other two teachers said there may be positive effects from drawing classes on students’ social skills due to interactions among students, as well as student-teacher interactions in class. Based on class observations, these two teachers were more flexible, e.g., they let students choose the shapes of windows and colours when drawing buildings. Students talked among themselves more freely, and these two teachers conversed with students more often, compared with Teacher 3A:

‘I want my students to be disciplined; they must keep quiet during lessons and concentrate...they need to follow my instructions and catch up with my teaching pace. Otherwise, they cannot complete the drawing in class...’
(Teacher 3A).

‘I teach my students how to take turns, as they need to share painting tools, colours and artwork materials....Therefore, I think students learn some basic manners and social skills in my drawing class....I think the teacher is an important person for young children, who listen and learn from them, so I shall teach my students basic manners, as well as drawing...’ (Teacher 3B).

‘I think students can learn some social skills in drawing class through interactions with peers and the teacher...but the effects really depend on teachers’ personality, teaching skills and teaching methods...’ (Teacher 3C).

Teachers’ perceptions of their lessons’ effects on young children’s social skills varied. Not surprisingly, group music training teachers shared very similar views on the effects from their lessons on young children’s social skills, while piano teachers did not perceive any effects from their lessons on young children’s social skills because of their lessons’ teaching methods and content. Interestingly, drawing teachers’ opinions varied. Data from class observations showed that teachers’ personality and perception of their role affect teaching styles. Furthermore, drawing classes can be skill-based lessons, as children engage in drawing without social interactions, and teachers are not into it. Based on class observations, the lessons were more like individual training, with very limited interaction among children

observed during some classes, which might influence their lessons' effects on children's social skills.

Summary

This chapter restated this study's purpose and research questions, then presented a summary of its analytic procedures and an exploratory analysis of collected data. ANOVAs were performed, and the results revealed significant interaction between group and time. A series of paired-sample t-tests were conducted to examine whether any significant effects could be determined from extracurricular music training and non-music training on participants' social skills, and whether any significant differences in effects existed among group music training, music training in individual lessons (piano lessons) and non-music group training (drawing classes) that affect samples' social skills. The results found significant positive effects from group music training on participants' social skills. For the individual music training (piano lessons) and non-music group training (drawing classes), positive effects were observed in some of the participants' social-skills subscales. No negative effect or relationship was found between extracurricular music training and participants' social skills, nor was any negative effect or connection found between extracurricular non-music training and participants' social skills. Tukey post hoc tests revealed that effects from group music training on participants' social skills were significantly higher than the piano lessons and drawing classes in all seven subscales, and that effects from piano lessons on participants' social skills were significantly higher than the drawing classes in four subscales including communication, cooperation, empathy and self-control while the other three subscales showed no significant differences.

Qualitative data showed that Hong Kong parents enrol their children in extracurricular activities so that they can learn extra skills and explore their interests and talents. Parents'

understandings of social skills were similar, but not identical. Most of the parents used the terms ‘communication’, ‘cooperation’, ‘teamwork’ and ‘interaction’ when they were asked to explain social skills. Parents did not realise that empathy, self-control and assertiveness, engagement and responsibility are included in the social-skills subscales. Parents’ expectations of extracurricular activities varied between groups, but were quite similar within each studied group. All the parents think that children will learn social skills in group lessons, especially in small-class settings. Besides the spectacular skills to be learned from the lessons, parents from group music training (Group 1) expect that music training would enhance their children’s personal skills, such as discipline, concentration, communication skills and self-confidence. Unlike Group 1 parents, one parent in the piano group mentioned other skills, such as persistence and patience, when asked to talk about expectations from the piano lessons, with the other two parents mentioning only skills related to piano playing, including grade exams and meeting school requirements. Two parents in the drawing group expected that the drawing class would improve their children’s concentration, creativity and problem-solving skills. Parents from group music training and the drawing group were more concerned about their children’s enjoyment and interests when choosing activities for them than parents in the piano group. Some parents think that regular practice is an extra burden on their children. Two parents from group music training (Group 1) and one parent in the drawing group (Group 3) observed improvement in their children’s social skills after joining these extracurricular activities, while other parents did not. However, these three parents were unsure whether the improvement was tied to extracurricular activity. Moreover, according to the parents from group music training who observed classroom activity, the frequency of interactions in group music training classes varied, depending on teachers’ instructional approach. Although some parents did not observe effects that they expected to see, they all believe that these effects may occur over time.

Teachers' perceptions of social skills were similar, with group music training teachers mentioning 'communication and presentation skills', 'interaction', 'cooperation', 'teamwork', 'discipline' and 'proper behaviour', while piano teachers did not mention 'teamwork', and drawing teachers did not mention 'discipline'. Teachers' perceptions of their roles and careers also were similar. Besides their professional skills, teachers cited common self-requirements such as being patient, tolerant, cheerful and positive. Most of the group lesson (music training and drawing) teachers hold similar perceptions of their roles and responsibilities; they think that they should teach students basic manners during their lessons to help them manage their classes. Piano teachers did not cite concerns about classroom management, as their lessons are one-on-one with students. Teachers' perceptions of effects from their lessons varied. Basically, group lesson (music training and drawing) teachers think students will learn social skills during their lessons, while piano teachers think that their lessons do not affect students' social skills. Generally, more interactions occurred between children and parents, teachers and children and among children themselves through various musical activities in group music training lessons. However, the frequency of interactions was not the same among different teachers. Interactions in the drawing classes varied as well, with free conversations among children in classes taught by teachers who believe that children will learn social skills during their lessons. On the other hand, not much interaction occurred among children in the class taught by a teacher who viewed discipline as more important and wanted students to finish their drawings in class. Although both group music training (Group 1) and drawing (Group 3) were taught in group lessons, based on parents' observations and class observations, interactions during classes were not the same within the group music training classes and drawing classes due to teachers' varying instructional approaches and beliefs. Activities in the group music training classes and teachers' instructional methods facilitated interactions more often than in the drawing classes. Most drawing classes tend to emphasize individual

experiences, same scenarios were observed in the class observations in this study, students worked on their own drawing in the lesson. Moreover, children concentrated on their drawings in the drawing classes, thereby decreasing interactions during class compared with group music training. Therefore, results are not entirely surprising. The diversity of teachers' instructional approaches and different activities in class could explain why less impact on participants' social skills existed in the drawing group than in group music training. Meanwhile, the diversity of teachers' perceptions on their roles and responsibilities, and parents' various expectations of extracurricular activities could explain the varying impacts on participants between group music training and piano lessons.

Chapter 5 will provide a summary of the study, discuss findings and implications' significance and present recommendations for future research.

Chapter 5: Discussion and Conclusions

Purpose and Objective

Based on extant literature that showed a connection between extracurricular music participation, students' social skills, and an increase in young children's participation in extracurricular music lessons in Hong Kong, this study aimed to examine the effects of extracurricular music training on preschool children's social skills in Hong Kong. This study was quantitative dominant, whilst qualitative data was collected to triangulate with the quantitative data. 180 preschool children were selected to receive three types of extracurricular activity lessons: group music lessons, individual piano lessons, and group drawing lessons. The frequency of all the extracurricular lessons was a 60-minute session every week, and the duration of the intervention was 24 weeks. Social skills of the students were measured by the Social Skills Improvement System Rating Scales (Gresham & Elliott, 2008) before and after the intervention. Qualitative data were collected through individual interviews after the intervention, and class observations were conducted after the interviews. The objective of this study was to examine the effects of extracurricular music lessons on preschool children's social skills in Hong Kong.

Findings

Paired-sample *t*-tests were conducted to compare the mean scores of each subscale between the pretest and posttest phases in each studied group. Findings showed that the mean score on all the seven subscales increased significantly between pretest and posttest in the group music cohort. In the piano group, the mean score increased on four subscales including communication, cooperation, assertion, and self-control from pretest to posttest, while the mean score on the other three subscales (responsibility, empathy, and engagement) did not show any significant difference. In the drawing group, six subscales showed an increase in

mean score from pretest to posttest, whilst the mean score on the cooperation-subscale did not show any significant change. Tukey's post-hoc tests revealed that group music training had significantly higher effects on participants' social skills than piano and drawing lessons, which were reflected in the scores on all seven subscales. Piano lessons had significantly higher effects on four subscales of the participants' social skills including communication, cooperation, empathy and self-control than drawing lessons. No significant differences were observed on the other three subscales between the piano and drawing groups.

Qualitative data showed that parents had a basic understanding of social skills as a concept, with most mentioning terms such as communication, cooperation, teamwork, and interaction. Parents' expectations of extracurricular activities varied between groups but tended to be quite similar within each studied group. In particular, parents of students receiving group music and group drawing lessons had higher expectations than those of students receiving piano lessons. These findings might explain the quantitative data in some ways as the former set of parents expected that the extracurricular lessons would enhance their children's personal skills, including discipline, concentration, communication, self-confidence, creativity, and problem-solving, in addition to the specific activity skills because of the nature of the class setting and the course content. Based on the qualitative data, parents who expected their children's social skills would be enhanced through extracurricular activities might prefer group lessons as children might learn social skills in group lessons (Gonzalez-Lopez, & Kamps, 1997; Mueller & Brenner, 1977). On the other hand, parents who concerned more about on a specific skill would choose to let their children take individual lessons rather than group lessons. Parents who thought practice would be a burden to their children would prefer activities which do not need much practice, these parents might choose drawing class rather than group music lessons as music lessons students have to practice keyboard playing at home. In this way, parents' expectations on extracurricular

activities might affect their choice of activities for their children. Based on teachers' responses, most of them shared a common understanding of social skills: they referred to terms such as communication skills, interaction, and cooperation. Further, the teachers of group lessons (music training and drawing) mentioned good manners, teamwork, and presentation skills whereas the piano teachers did not. Teachers of group music believed that their students would learn social skills through the activity lessons, but the piano teachers did not think so. These findings might not entirely surprising as piano teachers teach students individually and based on teachers' responses, piano teachers mainly focused on imparting piano-playing skills in their lessons. Drawing teachers held varied views on the relationship between their lessons and students' social skills. One of them believed that drawing lessons and students' social skills were unrelated, while the other two felt that drawing classes could have positive effects on students' social skills. It is likely that the teachers' perceptions may have affected the results as teachers' actual teaching is typically a reflection of their perceptions. Class observations revealed that group music training teachers encouraged students to interact with their classmates and parents through musical activities; there were many interactions between the parents and children and between teachers and the students. Parents' positive participation in the class activities with their children showed their expectations on this extracurricular activity in some sense. Piano teachers mainly focused on teaching piano-playing skills. Although there were interactions between teacher and the student, but mainly the teacher demonstrated the playing and then asked the student followed teacher's instructions, not many discussions were observed. Drawing teachers adopted diverse approaches: some teachers conversed with the children and allowed some free chatting among the children. Their teaching approaches were flexible, and they offered choices (shapes and colors) to the students. However, another drawing teacher strongly discouraged free chatting among the students, and the students were asked to follow every

drawing step of the teacher. Qualitative data collected from class observations could explain and support the quantitative results in some ways. Other than parents and teachers' perceptions of social skills, parents expectations of social skills, teachers' perception of their role and responsibilities; the nature of the activity (group-centred or individual) might also affect the results

Results of the research questions

The first research question of the study was “Are there any significant effects of extracurricular music training on preschool children’s social skills in Hong Kong?” ANOVA results showed a significant increase in group music participants’ mean scores on all the seven subscales between the pretest and posttest phase: communication score increased by 0.45 ($p < .001$); cooperation increased by 0.30 ($p < .001$); assertion increased by 0.36 ($p < .001$); responsibility increased by 0.26 ($p < .001$); empathy increased by 0.19 ($p < .001$); engagement increased by 0.38 ($p < .001$); and self-control increased by 0.36 ($p < .001$). Test results also showed a significant increase in the piano group participants’ mean score on four subscales: communication increased by 0.13 ($p = .005$); cooperation increased by 0.08 ($p = .046$); assertion increased by 0.12 ($p = .002$) and self-control increased by 0.07 ($p = .039$). On the other three subscales, the mean scores of the same participants were not significant. A significant increase was observed in the mean score of drawing class participants on six subscales: communication increased by 0.04 ($p = .006$); assertion increased by 0.05 ($p = .001$); responsibility increased by 0.04 ($p = .017$); empathy increased by 0.03 ($p = .032$); engagement increased by 0.10 ($p < .001$); and self-control by 0.05 ($p = .001$). The increase in the mean score of cooperation for the same participants was not significant. Overall, the results suggest that whether the extracurricular lessons are in music or not and whether they are taught in a group or individual setting, the lessons do not have a negative effect on

preschool children's social skills. Figure 15 shows the differences in the mean score between pretest and posttest across subscales for different groups.

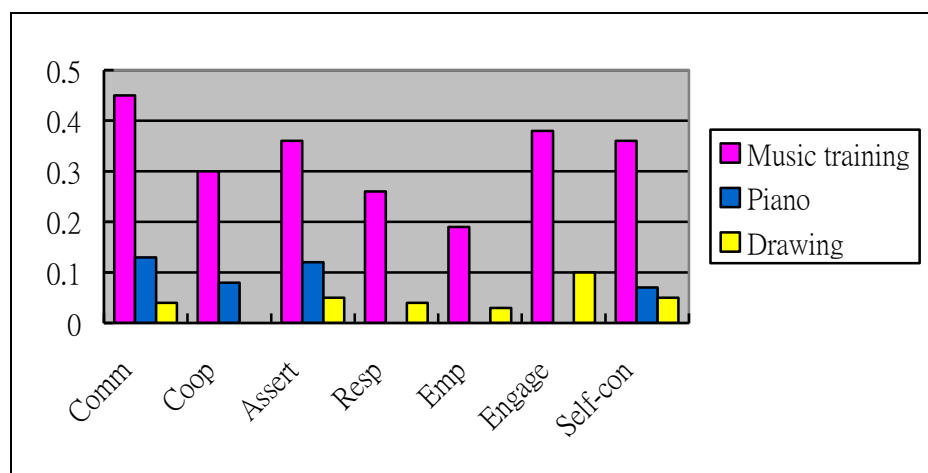


Figure 15. Mean score differences between pretest and posttest across subscales for different groups. (Comm = communication; Coop = cooperation; Assert = assertion; Resp = responsibility; Emp = empathy; Engage = engagement; Self-con = self-control)

Although positive effects were observed on participants' social skills in all three studied groups, the ANOVA results showed that the effect of group music lessons was the strongest, and the difference between the pretest and posttest mean scores of the participants was significant on all the seven subscales. Based on the qualitative data from the interviews, no parents mentioned about any negative effects of the extracurricular lessons on their children's social skills. Therefore, it is reasonable to conclude that extracurricular music training has significant positive effects on preschool children's social skills in Hong Kong.

The second research question of the study was as follows: "Are there any significant differences in the effects on preschool children's social skills between group music lessons and individual music lessons in Hong Kong?" Tukey's post-hoc tests revealed that the effects of group music training on participants' social skills were significantly higher than those of piano lessons. Specifically, in terms of posttest subscale scores, the results were as follows: the mean communication score of the group music cohort was higher than that of the piano

group by 0.42 ($p < .001$), the cooperation score of the group music students was higher than that of the piano group by 0.29 ($p < .001$), the assertion score was higher by 0.17 ($p = .03$), the responsibility score was higher by 0.40 ($p < .001$), the empathy score was higher by 0.28 ($p = .001$), the engagement score was higher by 0.36 ($p < .001$), and the self-control score of the group music students was higher by 0.30 ($p < .001$) than that of the piano group. Figure 16 shows the mean differences by subscale between the group music cohort and the piano group in the pretest and posttest phases.

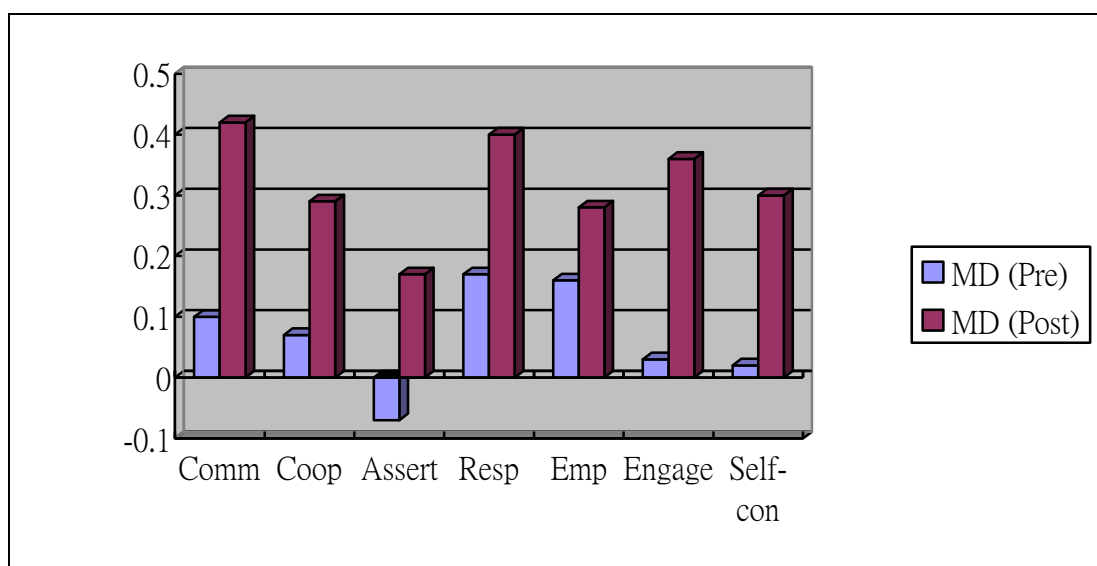


Figure 16. Comparison of mean pretest and posttest scores on social skill subscales between the group music cohort and the piano group. MD (Pre) = mean difference in the pretest; MD (Post) = mean difference in the posttest; Comm = communication, Coop = cooperation, Assert = assertion, Resp = responsibility, Emp = empathy, Engage = engagement, Self-con = self-control.

Quantitative data showed that group music training and piano lessons had significantly different effects on preschool children's social skills. Based on the qualitative data collected from interviews, some group music parents and the drawing group parents mentioned that they observed improvements in their children's social skills after the interventions. Based on class observations, interactions between teacher and students in the group music lessons were more than interactions in the individual piano lessons. Moreover, interactions among students

and interactions between students and parents were observed. Therefore, it is rational to conclude that there are significant differences in the effects of group vs. individual music lessons on preschool children's social skills in Hong Kong.

The third research question of this study was “Are there any significant differences in the effects of group music training and non-music group training on preschool children's social skills in Hong Kong?” Tukey's post-hoc test results revealed that group music training produced significantly higher effects on participants' social skills than drawing training. Specifically, the music group's scores were higher than those of the drawing group on communication by 0.68 ($p < .001$), on cooperation by 0.50 ($p < .001$), on assertion by 0.23 ($p = .02$), on responsibility 0.51 ($p < .001$), on empathy by 0.66 ($p < .001$), on engagement by 0.42 ($p < .001$), and on self-control by 0.54 ($p < .001$). Figure 17 shows the difference in mean scores between the group music cohort and the drawing group in the pretest and posttest phase.

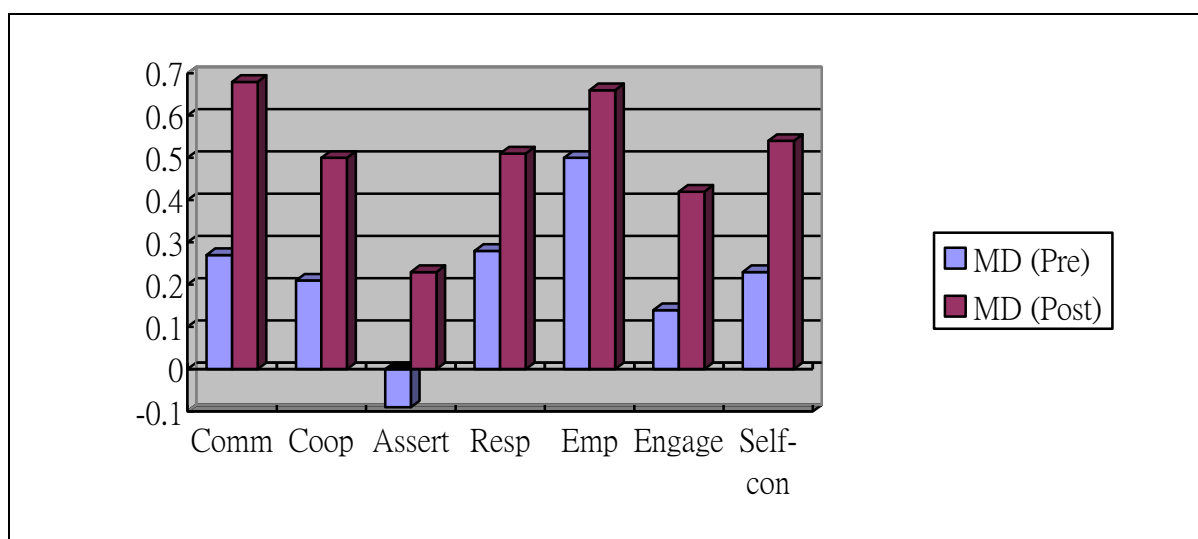


Figure 17. Comparison of mean pretest and posttest scores on social skill subscales between the group music cohort and the drawing group. MD (Pre) = mean difference in the pretest; MD (Post) = mean difference in the posttest; Comm = communication; Assert = assertion; Emp = empathy; Self-con = self-control.

Quantitative data showed that there are significant differences in the effects of group

music training and group non-music training on preschool children's social skills in Hong Kong. Based on the qualitative data from the interviews and class observations, teachers' differences in instructional strategy and the type of program might influence the results. For instance, as mentioned before, interactions among students in the drawing group were different between classes, it depended on teachers' instructional approach. Furthermore, even in group contexts, the observed drawing classes tend to emphasise individual experience whilst the observed group music lessons emphasised on participating musical activities together. In such case, the observed drawing classes were taught in an isolated way while the group music lessons were taught in an interactive way. Given the above results, it is reasonable to conclude that there are significant differences in the effects of group music training and group non-music training on preschool children's social skills in Hong Kong.

Discussion

The results of this study showed significant positive effects of group music training on students' social skills. Individual piano lessons and group drawing lessons also had positive effects, as reflected in some of the social skill subscales. No negative effect or relationship was found between extracurricular music training and students' social skills. Group music participants' mean scores showed a significant increase in the posttest phase on all the seven social skill subscales, which implies that participants' social skills improved after the intervention. The increase in mean scores seen in the group music cohort was significantly greater than that seen in the piano and drawing groups. Further, qualitative data and class observations suggested that the difference might be attributed to the nature of the classes, teaching approaches, teachers' perceptions of their role and responsibilities, parents' expectations of the extracurricular activities, and parents' involvement and support. Based on the qualitative data from class observations, group music training teachers engaged in more

interactions than the piano and drawing teachers. They also facilitated the interactions. For instance, students sang and played an ensemble together, and they were encouraged to answer the teacher's questions together. Playing (or singing) music together can help children learn to cooperate with each other (Palmer, 2001) and to generate ideas collaboratively (Sawyer, 1999), to develop self-awareness and self-confidence (Cleave & Dust, 1989), which are important factors in initiating relationships with peers. Ensemble playing in group music training may enhance peer interaction in general, and synchrony among peers in particular (D'ausilio, Novembre, Fadiga, & Keller, 2015; Overy, 2012). More specially, children could easily hear if they or their peers were struggling with a lesson (e.g. playing or singing wrong notes or in wrong rhythms), children would help those who were have difficulty. Such collaboration may improve children's social bonds by raising their motivation to provide support for others, and their willingness to receive help from others. Helping behaviours are known to foster a sense of security among friends and peers (Barry & Wentzel, 2006; Johnson & Johnson, 2005).

Although drawing lessons were also taught in a group setting, the nature of the classes was different from the group music lessons. Students in the drawing classes had to follow their teacher's instructions step by step, and they had to concentrate to ensure that they kept pace with the teacher and completed their drawing. They were engaged in their drawing, and they did not have much time to talk to each other. Further, children in the drawing group worked on their own work whereas those in the group music classes always sang and played together. Thus, the nature of interactions in the group music classes and drawing classes was different. Additionally, the group music teachers offered parent-child group lessons, and it was likely that parents' participation might have affected the results. Parents interacted with their children through various musical activities in class, and they helped control their disturbing behaviors, such as crying or screaming. As mentioned before (on pp.124-125),

parents' expectations on extracurricular activities might affect their choice of activities for their children. Further, parents who considered their children's social skills enhancement might be reflected on their choice of extracurricular activities. In fact, parents' positive participation in the activities in class might show their expectations of this extracurricular activity. Moreover, there was a possibility that participants in the group music lessons were from the families with parents who concerned social skills more than the other two studied groups. This assumption might explain why the groups were already different in the pretest (see Figure 8-Figure14). All these factors possibly explain why the social skill effects of group music training were greater than those of group drawing lessons.

Teachers' perceptions of their role might have also affected the results as teachers' beliefs tend to manifest in their teaching approaches. The qualitative data showed that group lesson teachers (music and drawing) had a stronger belief than teachers of individual lessons (piano teachers) that they should teach basic manners and social skills. Although the parent-child music training through group lessons had the strongest positive effects on participants' social skills, the lesson-based interactions used by the group music teachers were not the same; the teachers used diverse teaching approaches. For instance, music activities which encouraged interactions between parents and students were observed in two of the group music teachers' class, whilst the other group music teacher emphasised on discipline and imitation playing and singing. Meanwhile, interactions among children in the drawing classes were diverse too. The two drawing teachers who believed that children would acquire social skills through their lessons allowed children to have more free conversations in their classes. However, the drawing teacher who believed that discipline and completion of the drawing lesson were important stopped the children from having conversations. Although both group music lessons and drawing classes were group lessons, however, the interactions in class were different. Class observations of piano lessons showed

that the teacher mainly listened to student's playing and offered advice or demonstrated a technique. The student then followed teacher's instructions. Discussions were rare during piano lessons. This pattern was consistent with what the piano teachers said: they thought that their major role was to teach playing skills and that their teaching did not have any relationship with social skills. Thus, it is reasonable to believe that teachers' perception of their role and responsibility influences the results.

Parents' expectations may have also affected the results as qualitative data showed that parents sending their children to group lessons expected that group training would enhance their children's personal skills, including social skills. In the music training group, which consisted of parent-child lessons, parents participated positively in the lessons and were engaged in the class interactions. Based on the interviewed parents' responses, parents whose children attended individual piano lessons appeared to be more concerning about achievements such as graded exam certificates and improvements in academic learning. On the other hand, interviewed parents whose children attended group lessons (music training and drawing) seemed to be more concerning about their children's enjoyment and interests than the piano group parents. They mentioned their children's feelings about the extracurricular activities. All these factors might have influenced the results.

The results of this study are consistent with those of previous studies. Earlier studies have found that participation in group music activities helps students to learn to support each other, maintain commitment, and work together for achieving group targets (Brown, 1980; Humpal, 1991; Peretz, 2005; Sward, 1989). Children learn to cooperate with others by playing music together in a group (Hargreaves et al., 2003; Humpal, 1991; McClung, 2000; Palmer, 2001). Further, playing music with others improves children's self-awareness and self-confidence (Cleave & Dust, 1989). Interactions in group music activities usually include disagreement and compromises related to musical issues and collaborations, and thus it

enhances participants' social skills (Blandford & Duarte, 2004; Humpal, 1991; Murningham & Conlon, 1991; Young & Colman, 1979). Group music lessons are thought to promote trust (Camilleri, 2002); develop children's empathy (Levine, 1997), respect, and understanding of others (Kim, 2004; Palmer, 2001); enhance social behaviours, peer interactions, self-expression, interpersonal skills, (Eidson, 1989; Gunsberg, 1988; Humpal, 1991; Reid, Hill, Rawers, & Montegar, 1975; Steele, 1977) as well as teamwork (Hargreaves, Marshall, and North, 2003). Skills that assist the development of social competence, including listening skills (Kim, 2004; Swayer, 1999), concentration (Camilleri, 2002), self-control (Kim & McChung, 2000), have also been reported to benefit from music participation. The qualitative data in this study showed that teachers adopted diverse teaching approaches but how these approaches affect students' social skills can be further investigated in future studies. Similarly, while this study posits that parents' expectations may have influenced the results, the relationship between parents' expectations and children's social skills should be further examined.

In this study, after taking piano lessons, participants' mean score increased on four subscales—communication, cooperation, assertion, and self-control—which implies that piano lessons have positive effects on some aspects of children's social skills. Results may be attributed to the fact that learning to play an instrument requires the development of a range of skills such as disciplined practice, visual-motor coordination, sustained attention and concentration, memory, motivation, and emotional sensitivity (Hietolahti-Ansten & Kalliopuska, 1990; Hurwitz, Wolff, Bortnick, & Kokas, 1975; Orsmond & Miller, 1999; Rauscher & Zupan, 2000; Schellenberg, 2001; Shore & Strasser, 2006; Warner, 1999). Regular practice calls for self-discipline and persistence, and this may explain why students' self-control score was improved after the intervention in this study. The class observations showed that the piano students were highly cooperative in the lessons; they followed

teacher's instructions well. Although discussion between the teacher and the student during the lessons was rare; the teacher told the student what to do most of the time. However, many performers express their emotions and feelings and communicate with the audience through their performance (Juslin & Laukka, 2003). It is likely that students in the piano group may have learned to express their feelings through their performance. This may explain the results of the piano group investigated in this study. The findings of the study are consistent with those of Hallam and Prince (2000), who reported that the benefits of learning to play an instrument include the growth of social skills; enhancing of confidence and self-discipline; and experiencing a sense of achievement. However, why piano lessons improved the students' communication, cooperation, assertion, and self-control but not responsibility, empathy, and engagement has to be examined.

Interestingly, after the drawing lessons, participants' mean score increased significantly in six out of seven social skill subscales. These findings could be explained by the nature of the group lessons: group lessons lead to more interactions than individual lessons. Someone may argue that children's social skills grow naturally through daily life activities such as schooling. But the quantitative data showed that the growth of participants' social skills were significantly different between groups. The natural growth of participants' social skills might explain why there were no negative effects were found in the posttest. However, the different effects found between group lessons and individual lessons might illustrate the different effects of group lessons versus individual lessons on participants' social skills. Although the improvement of social skills in the drawing group was significantly less than that in the group music cohort, the findings of this study showed that group lessons have significant positive effects on children's social skills. One of the reasons might be children also learn cooperation, commitment, compromise, and collaboration by participating in group-based art activities (Clift & Hancox, 2001; Hallam & Prince, 2000; Jeong & Kim, 2005; Kim, 2009; Kirschner &

Tomasello, 2009). It does not matter if the course content is based on music or not. The qualitative data revealed that two out of three drawing teachers taught manners and discipline as part of their lessons. Further, class observations showed that children learned to share and take turns at using painting tools, artwork materials, colors, and hair dryer in class. However, every student worked on their own drawing; they did not work on one painting or one artwork together. This might be one of the reasons why the effects of drawing classes on participants' social skills were less than the group music training.

Another interesting finding was that the mean assertion score of the group music cohort was significantly lower than that of the other two groups in the pretest (see Table 6). The reason might be that the parents attended music training classes with their children. In the pretest stage, children may not have been confident enough to tell the teachers about their feelings and thoughts. However, an increase in the mean score of assertion among group music participant implied that music training via group lessons enhanced participants' assertion ability. The participants were able to share their thoughts and feelings even with their parents beside them after the intervention. Class observations suggested that part of this result might come from teachers' teaching approaches; some of the observed group music teachers asked many questions and encouraged the students to answer the questions in the lessons.

Limitations

The following aspects have not been discussed in the present study and need to be investigated in depth in future.

1. Family socio-economic status (SES)

Some researchers believe that SES affects children's social competence (Hartas, 2011; Mohamed & Toran, 2018) as children from lower socioeconomic status families have

higher chance to have impaired social and emotional skills (Donkin, Roberts, Tedstone & Marmot, 2014). Furthermore, Vincent and Maxwell (as cited in Ilari, Perez, Wood, & Habibi, 2019) believe that extracurricular activities would show classed parenting behaviours. According to the lesson fee of studied groups in this study and class observations, most of the participants might come from middle-class families. There were possibilities that family's socio-economic status might have influenced the results.

2. Sample size

Qualitative data were collected from a limited number of teachers and parents and therefore cannot be generalized. There were possibilities that other parents in the piano group were interested in social skills or other skills but were not interviewed. Similarly, some parents in the music group may have valued their children's enjoyment more than tangible achievements, but they may not have been included in the interviewed samples. Finally, it is also possible that other teachers in the piano group think that their teaching is related to children's social skills, and their teaching approach may include various activities such as singing, clapping and musical games.

Recommendations for Further Study

This study indicated the different effects of group music training and non-music training on preschool children's social skills in Hong Kong. It also showed the different effects of group music training and individualized music training on young children's social skills. Based on the limitations outlined, future studies should examine the associations between family's socio-economic status and children's social skills in the context of Hong Kong. Additional research should also explore the relationship between teachers' perception of their roles and students' social skills. Further, researchers believe that children acquire social skills naturally through observation and interaction with their parents, caregivers,

teachers, and peers (Craig, 2009). Future studies would do well to investigate the correlation between parents' social skills and their children's social skills development.

Implications

The diversity of topics discussed in the literature review of this study underscores the complexity of the relationship between music participation and children's development, including academic achievement, cognitive and perceptual skills, personal development, and social skills. It provides concrete information for parents to understand the relationship between music participation and preschool children's development, especially social skills, and factors that may influence the effects of extracurricular lessons on preschool children. The results confirmed the presence of a significant relationship between music participation and preschool children's social skills. The findings of this study affirmed the positive effects of extracurricular music training on preschool children's social skills. Further, the results showed that the effects of group music lessons on preschool children's social skills were greater than those of individual music lessons.

Social skills are very important to children's becoming members of the society. The development of social skills are related to many aspects of a child's life, including good treatment and respect from parents (Boivin & Bégin, 1989; Danielson & Phelps, 2003; Putallaz & Heflin, 1990), self-esteem, an overall happy quality of life (Rubin, Booth, Rose-Krasnor, & Mills, 1995), academic success, peer relationships, family relationships, support, future emotional skills development, self-management, career, and extracurricular or leisure activities (Kolb & Hanley-Maxwell, 2003; Lori, 2009; Malecki & Elliott, 2002; Welsh, Parke, Widaman, & O'Neil, 2001). Many children acquire these skills naturally through daily life, and preschool children may already have understood the basic concept of sharing, respect, and patience. Thus, they can start learning proper social behavior and social

problem-solving skills (Craig, 2009). However, some children face difficulties in acquiring these skills (Frey, Elliott, & Kaiser, 2014) as their family's socioeconomic status and their parents' social skills (Okukura & Usui, 2010) may affect their social skills development (Donkin, Roberts, Tedstone & Marmot, 2014). And thus, different strategies and particular intervention programs targeting social skill development are needed for such preschoolers.

This study implicated that on top of natural growth through life lived, group music lessons benefit preschool children's social skills. Therefore, the associations between extracurricular group music lessons and children's development should not be overlooked.

Conclusion

Tangible learning outcomes are easier to measure and easier for parents and schools to recognise than intangible music abilities such as musicality, creativity and musical sense. Therefore, school music lessons in Hong Kong primary and secondary schools are mainly focused on instrumental performance, singing and music theory (Leung, 2000). In terms of the practical situation in Hong Kong, school music lessons may not facilitate children's development holistically as written in the curriculum guides issued by the Education Bureau or as what researchers and educators suggested. Hong Kong parents concern about their children's future very much, they send their children to extracurricular activities in hopes that these will bring their children advantages besides academic success. The competitive education system in Hong Kong make the parents think that the more certificates their children have, the better chance they have of entering a band-one primary school. Children brought up with these social values will be inclined to target achieving tangible learning outcomes, thus gaining self-satisfaction and raising self-esteem (Wong & Watkins, 2001). And thus, in this context, music has an extrinsic value. Most societies include tests and have stressful circumstances, Hong Kong seems to be at the pinnacle of challenges in this regard.

In a survey conducted by the UNICEF Hong Kong in 2014, 90% of the responded parents stated that their children have study pressure driven by school assignment, 70% of the responded primary and secondary students reported that they had less than one hour of free play each day (UNICEF, 2014). The potential of music education as an approach to promote children's personal development should not be overlooked. Children start to develop friendships with their peers at the preschool stage, which is crucial for positive social and emotional development (Anthony, Glanville, Naiman, Waanders & Shaffer, 2005; Epstein, 2009; Sassu, 2007). Thus, particular interventions to develop group music classes for young children that specifically target and refine the development of social skills and a positive attitude may help to improve some of the problems that students experience. The idea behind this is not to impart social skills to young children only through music lessons. However, given that music education can play a role in young children's development, intervention music programs can be designed for children facing difficulties in acquiring social skills. Teachers are the key persons who facilitate the benefits of music education on children's personal development. And thus, teachers' professionalism including teachers' qualification and teachers training are important issues and should never be overlooked in the education system.

Researchers must continue to explore and better understand the relationship between music education and children's development; decision-makers should strive to implement music education in schools; parents and teachers should be encouraged to take active roles in advocating for music education in the society. Thus, stakeholders can ensure that all children have an opportunity to receive music education and all its benefits.

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Appendix A
Consent Form and Information Sheet For Schools



THE EDUCATION UNIVERSITY OF HONG KONG
Department of Cultural and Creative Arts (CCA)

CONSENT TO PARTICIPATE IN RESEARCH (FOR SCHOOL)

Project title: The effects of extracurricular music participation on preschool children's social skills in Hong Kong

My school hereby consents to participate in the captioned project supervised by Dr. Koji Matsunobu and conducted by Ms. Serina Wing Yee Tse, who is a student of the Department of Cultural and Creative Arts in The Education University of Hong Kong.

I understand that information obtained from this research may be used in future research and may be published. However, our right to privacy will be retained, i.e., the personal details of my students'/teachers' will not be revealed.

The procedure as set out in the **attached** information sheet has been fully explained. I understand the benefits and risks involved. My students'/teachers' participation in the project are voluntary.

I acknowledge that we have the right to question any part of the procedure and can withdraw at any time without negative consequences.

Signature:

Name of Principal/Delegate*:

(Prof/Dr/Mr/Mrs/Ms/Miss*)

Post:

Name of School:

Date:

(* please delete as appropriate)

INFORMATION SHEET

Project title: The effects of extracurricular music participation on preschool children's social skills in Hong Kong

Your school is invited to participate in a project supervised by Dr. Koji Matsunobu and conducted by Ms. Serina Wing Yee Tse, who is a student of the Department of Cultural and Creative Arts in The Education University of Hong Kong.

The introduction of the research

The aim of this study is to investigate the effects of extra-curricular music participation on pre-school children's social skills.

A number of participants who takes extra-curricular music/ drawing class currently are being invited to take part in this study.

The methodology of the research

The total number of participants in this study will be around 200; the duration of this study is 24 weeks. Around 80 students and their class teacher will be selected randomly from your school to participate in this study. Selected students' / teachers' class will be observed by the investigator during the 24 weeks of this study; the investigator will take notes during class observation. The aim of the observation is to observe interaction between the selected samples and their teacher / other students in class.

The teacher of the selected samples needs to fill in a questionnaire at the beginning and at the end of the study. This questionnaire is used to measure young children's social skills; it will take around 10 to 20 minutes to complete the questionnaire.

A follow-up interview will be conducted with selected teachers and parent by the end of this study at a time convenient to them, lasting about 15 to 20 minutes. With their permission, the interview will be audio recorded and transcribed. The transcription will then be sent to interviewees accordingly so that they can check its accuracy and confirm that they are still happy for it to be used in the study.

There is no personal compensation for participation; data collected is useful for this study and further research in future. As a consequence of taking part, participants should gain an insight into the effects of extra-curricular music participation on pre-school children's social skills. A summary of the findings of the study can be made available to you by contacting the investigator.

The potential risks of the research

There will be no risk or discomfort for your students/ teachers to participate in this study. Please understand that your students'/teachers' participation are voluntary. They have every right to withdraw from the study at any time without negative consequences. All information related to your students'/teachers' will remain confidential, and will be identifiable by codes known only to the researcher.

How results will be potentially disseminated

The data will be represented in my doctoral thesis and possibly in subsequent academic publications such as journals, educational presentations, etc.

If you would like to obtain more information about this study, please contact Ms. Serina Wing Yee Tse at telephone number [REDACTED] or her supervisor Dr. Koji Matsunobu at telephone number 29487073.

If you have any concerns about the conduct of this research study, please do not hesitate to contact the Human Research Ethics Committee by email at hrec@eduhk.hk or by mail to Research and Development Office, The Education University of Hong Kong.

Thank you for your interest in participating in this study.

Serina Wing Yee Tse
Principal Investigator



Appendix B
Consent Form and Information Sheet for Parents



THE EDUCATION UNIVERSITY OF HONG KONG
Department of Cultural and Creative Arts (CCA)

CONSENT TO PARTICIPATE IN RESEARCH

Project title: The effects of extracurricular music participation on preschool children's social skills in Hong Kong

I _____ hereby consent to my child participating in the captioned research supervised by Dr. Koji Matsunobu and conducted by Ms. Serina Wing Yee Tse.

I understand that information obtained from this research may be used in future research and may be published. However, our right to privacy will be retained, i.e., the personal details of my child will not be revealed.

The procedure as set out in the **attached** information sheet has been fully explained. I understand the benefits and risks involved. My child's participation in the project is voluntary.

I acknowledge that we have the right to question any part of the procedure and can withdraw at any time without negative consequences.

Name of participant _____

Signature of participant _____

Name of Parent or Guardian _____

Signature of Parent or Guardian _____

Date _____

INFORMATION SHEET

Project title: The effects of extracurricular music participation on preschool children's social skills in Hong Kong

You are invited to participate with your child in a project supervised by Dr. Koji Matsunobu and conducted by Ms. Serina Wing Yee Tse, who is a student of the Department of Cultural and Creative Arts in The Education University of Hong Kong.

The introduction of the research

The aim of this study is to investigate the effects of extra-curricular music participation on pre-school children's social skills.

A number of participants who takes extra-curricular music/ drawing class currently are being invited to take part in this study.

The methodology of the research

The total number of participants will be around 200; the duration of this study is 24 weeks. Your child's name has been given to me from the school of the extra-curricular class. Your child's class may be observed by the investigator during the 24 weeks of this study; the investigator will take notes during class observation. The aim of the observation is to observe interaction between your child and the teacher / other children in class. The teacher of your child will need to fill in a questionnaire at the beginning and at the end of the study. This questionnaire is used to measure young children's social skills; it will take around 10 to 20 minutes to complete the questionnaire.

A follow-up interview may be conducted with you at a time convenient to you by the end of this study, lasting for about 15 to 20 minutes. With your permission, this interview will be audio recorded and transcribed. This transcription will then be sent to you so that you can check its accuracy and confirm that you are still happy for it to be used in the study.

There is no personal compensation for participation; data collected is useful for this study and further research in future. As a consequence of taking part, participants should gain an insight into the effects of extra-curricular music participation on pre-school children's social skills. A summary of the findings of the study can be made available to you by contacting the investigator.

The potential risks of the research

There will be no risk or discomfort for your child to participate in this study. Your child's participation in the project is voluntary. You and your child have every right to withdraw from the study at any time without negative consequences. All information related to you will remain confidential, and will be identifiable by codes known only to the investigator.

How results will be potentially disseminated

The data will be represented in my doctoral thesis and possibly in subsequent academic

publications such as journals, educational presentations, etc.

If you would like to obtain more information about this study, please contact Ms. Serina Wing Yee Tse at telephone number [REDACTED] or her supervisor Dr. Koji Matsunobu at telephone number 29487073.

If you or your child have/ has any concerns about the conduct of this research study, please do not hesitate to contact the Human Research Ethics Committee by email at hrec@eduhk.hk or by mail to Research and Development Office, The Education University of Hong Kong.

Thank you for your interest in participating in this study.

Serina Wing Yee Tse
Principal Investigator



Appendix C
Consent Form and Information Sheet for Teachers



THE EDUCATION UNIVERSITY OF HONG KONG

CONSENT TO PARTICIPATE IN RESEARCH
Department of Cultural and Creative Arts (CCA)

Project title: The effects of extracurricular music participation on preschool children's social skills in Hong Kong

I _____ hereby consent to participate in the captioned research supervised by Dr. Koji Matsunobu and conducted by Ms. Serina Wing Yee Tse.

I understand that information obtained from this research may be used in future research and may be published. However, my right to privacy will be retained, i.e., my personal details will not be revealed.

The procedure as set out in the **attached** information sheet has been fully explained. I understand the benefits and risks involved. My participation in the project is voluntary.

I acknowledge that I have the right to question any part of the procedure and can withdraw at any time without negative consequences.

Name of participant _____

Signature of participant _____

Date _____

INFORMATION SHEET

Project title: The effects of extracurricular music participation on preschool children's social skills in Hong Kong

You are invited to participate in a project supervised by Dr. Koji Matsunobu and conducted by Ms. Serina Wing Yee Tse, who is a student of the Department of Cultural and Creative Arts in The Education University of Hong Kong.

The introduction of the research

The aim of this study is to investigate the effects of extra-curricular music participation on pre-school children's social skills.

A number of participants who take extra-curricular music/ drawing class currently are being invited to take part in this study.

The methodology of the research

The total number of participants will be around 200; the duration of this study is 24 weeks. Your name has been given to me from the school of the extra-curricular class. Your class may be observed by the investigator during the 24 weeks of this study; the investigator will take notes during class observation. The aim of the observation is to observe interaction between you and your students and interaction among students in class. You will need to fill in a questionnaire at the beginning and at the end of the study. This questionnaire is used to measure young children's social skills; it will take around 10 to 20 minutes to complete the questionnaire.

A follow-up interview may be conducted with you at a time convenient to you by the end of this study, lasting for about 15 to 20 minutes. With your permission, this interview will be audio recorded and transcribed. This transcription will then be sent to you so that you can check its accuracy and confirm that you are still happy for it to be used in the study.

There is no personal compensation for participation; data collected is useful for this study and further research in future. As a consequence of taking part, participants should gain an insight into the effects of extra-curricular music participation on pre-school children's social skills. A summary of the findings of the study can be made available to you by contacting the investigator.

Your participation in the project is voluntary. You have every right to withdraw from the study at any time without negative consequences. All information related to you will remain confidential, and will be identifiable by codes known only to the investigator.

How results will be potentially disseminated

The data will be represented in my doctoral thesis and possibly in subsequent academic publications such as journals, educational presentations, etc.

If you would like to obtain more information about this study, please contact Ms. Serina Wing Yee Tse at telephone number [REDACTED] or her supervisor Dr. Koji Matsunobu at telephone number 29487073.

If you have any concerns about the conduct of this research study, please do not hesitate to contact the Human Research Ethics Committee by email at hrec@eduhk.hk or by mail to Research and Development Office, The Education University of Hong Kong.

Thank you for your interest in participating in this study.

Serina Wing Yee Tse
Principal Investigator



Appendix D

Interview Questions for Teachers



The effects of extracurricular music participation on preschool children's social skills in Hong Kong

Tse Wing Yee Serina

1. What extracurricular course do you teach?
2. How many years have you been teaching this course?
3. Your qualification in this area?
4. How many hours do you teach per week?
5. How many students/ classes do you teach in total?
6. What are social skills in your perception?
7. As a teacher, what are your self requirements?
8. As a teacher, what you think your role and responsibilities are?
9. Do you think there are any effects of your lessons on your students' social skills?
 - ➔ If yes, what are the effects & why? Any examples?
 - ➔ If no, why?

1. 你教什麼興趣班?
2. 你已教興趣班多少年?
3. 你的專業資歷?
4. 你每星期教幾小時興趣班?
5. 你一共有多少學生/班?
6. 你認為社交技巧是什麼?
7. 作為老師, 你有什麼自我要求?
8. 作為老師, 你認為你的角色和責任是什麼?
9. 你認為你的課堂班對你學坐的社交技巧有影響嗎?
 - ➔ 如有, 有些甚麼改善? 請舉例說明。
 - ➔ 如沒有, 為什麼?

Appendix E

Interview Questions for Parents



The effects of extra-curricular music participation on preschool children's social skills in Hong Kong

Tse Wing Yee Serina

1. How many children do you have & how old are they?
2. How many of them have joined extracurricular activities?
3. How many extracurricular activities have your children joined and what are those activities?
4. Why you let your children join extracurricular activities?
5. What kind of skills do you expect your children to learn in the extracurricular activities?
6. What has your children learnt from extracurricular lessons?
7. What are social skills in your perception?
8. Do you think the extracurricular lessons affect your children's social skills?
 - ➔ If yes, how is the improvement? Please give some examples.
 - ➔ If no, how do you know there is no improvement?
9. Do you think extracurricular music training can improve children's social skills or not? Why?
10. 你有幾位子女? 子女年齡?
11. 你有幾位子女參加校外興趣班?
12. 子女分別參加多少個校外興趣班? 是什麼興趣班?
13. 你為什麼讓你子女參加校外興趣班?
14. 你期望你子女在校外興趣班學到甚麼技能?
15. 你認為子女在校外興趣班學到甚麼?
16. 你認為社交技巧是什麼?
17. 你認為校外興趣班對你子女的社交技巧有影響嗎?
 - ➔ 如有, 有些甚麼改善? 請舉例說明。
 - ➔ 如沒有, 為什麼?
18. 你認為校外樂音課程可以改善小朋友的社交技巧嗎? 為什麼?

Appendix F

Sample of Class Observation Notes



Date of observation:

Location:

Group & teacher:

Number of students:

1. How did the teacher start the lesson? (Cheerful or Serious/ With or without greeting the students)
2. Teacher's strategies/methods while teaching the lesson? (Demonstration/ Discussion/ Inquiry/ Collaborative work...)
3. Teacher's classroom management? (Material rewards/ Praise/ Penalty/ Removed privileges/ Verbal warning)
4. How did the teacher engage / motivate the students?
5. Students' participation in activities in the lesson?
6. Any interactions among students? (Conversations/ Body movement/ Conflicts/ Cooperation/ Competition...) Frequency?
7. Students' social skills in general? (Communication/ Cooperation/ Assertion/ Responsibility/ Empathy/ Engagement/ Self-Control)
8. Remarks:

Floor plan of the classroom