Musical aptitude and multiple intelligences among Chinese gifted students in Hong Kong: Do self-perceptions predict abilities?

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Abstract

The relationships between perceived multiple intelligences and musical aptitude were examined in 298 Chinese gifted students in Hong Kong. Self-perceived musical intelligence consistently emerged as the significant predictor of global musical aptitude, and its components of tonal imagery, rhythm imagery, and musical sensitivity, suggesting that self-perceptions did reflect actual abilities. However, there were also subtle differences in the prediction, as greater predictability was observed for tonal imagery. Implications of the findings for identification of musical talent in the school setting are discussed.

Keywords: Musical aptitude; Multiple intelligence; Gifted students; Hong Kong

1. Introduction

In recent years, there have been growing concerns and interests in the identification and development of students’ diverse talents in Hong Kong schools (Education Department, 2000). The
movement has been largely propelled by the increasing acceptance of a broadened conception of
giftedness based on Gardner’s (1983) theory of multiple intelligences (MI).

Specifically, Gardner (1999) proposes that each individual has specific strengths and weaknesses
and can be conceptualized to have multiple abilities or intelligences that can be affected by culture,
biology, and other factors. In reframing his MI theory, he defines intelligence as a biopsychologi-
cal potential to process information in certain ways, and each intelligence allows the individual to
solve problems and fashion products that are of value within a cultural context. To date, Gardner
(1999) has postulated eight intelligences and is considering other candidate intelligences. The eight
intelligences are verbal-linguistic, musical, logical-mathematical, visual-spatial, bodily-kinaes-
thetic, intrapersonal, interpersonal, and naturalist. Based on the evidence gathered from extensive
studies with prodigies, gifted individuals, brain-damaged patients, savants, normal children and
adults, experts in different fields, and people from different cultures, Gardner (1983) maintains
that each of the multiple intelligences is relatively independent, and together they typically work
in harmony. Since the publication of MI theory, different education practitioners have applied it
in teaching and learning, in assessment and evaluation, and in identification of students with
different talents (Armstrong, 1994; Fasko, 2001).

Among the eight intelligences, musical intelligence is the earliest to emerge (Scott & Moffett,
1977). Bamberger (1995), for example, in her studies of musical learning of musically talented stu-
dents, has shown that the musical mind does not function in a linguistic or logical-mathematical
way, and musically talented students are more adept in shifting between different representations
of a musical task (performing, reading a score, listening). Nonetheless, the evidence for the inde-
pendence of musical intelligence is compelling, considering the studies on musical savants who,
despite their generally low IQ, have musical accomplishments resembling those of musical prod-
igies (Miller, 1999). Musical savants at an early age are often able to replicate tunes after a single
hearing. They sing in tune, and have an exceptional tonal memory. In a similar vein, the recog-
nition of perfect pitch in the special population of autistic individuals has been suggested as a poss-
ible indication of musical ability (Winner, 1996). However, Gardner (1983) also contends that
musical intelligence could extend beyond purely aural sensory capacities as assessed in tradition-
ally musical aptitude measures, citing that rhythmic organization could exist apart from the audi-
tory realization and allow deaf persons an entry point to musical experiences.

Indeed, the assessment of musical aptitude for the identification of musical talent generally
takes aural discrimination as the core element for objective assessment. This traditional practice
dates back to the late 1800s to the work by Helmholtz, Wundt, and Galton (Haroutounian, 2002).
Seashore (1938) describes musical talent as a hierarchy of attributes that include tonal, dynamic,
temporal, and qualitative, and he is best known for his musical aptitude tests. The Seashore test
battery has subtests that provide an objective measurement of aural discrimination within each
area of these sensory capacities, assessing analytical skills that include the ability to make fine dif-
ferentiations between tones of different pitches, length, and loudness and musical structures.

The Seashore test battery has also stimulated the development of a variety of musical aptitude
tests, all variations of Seashore’s basic standards of measurement. Particularly noteworthy is
Gordon’s (1986) series of test batteries for measuring musical aptitude from kindergarten to
twelfth grade. Gordon (1986, 1995) bases his measurement of musical aptitude on the concept
of imagery or “audiation”, which refers to the ability to comprehend music or derive musical
meaning for which the sound is not physically present (as in recall), is no longer physically present
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