Music in Malaysian Higher Education: The Relationships among Personal-Environmental Factors and Measured Achievement of Students' Music Performance

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To my parents. With love, Pey.

Abstract

Music learning involves mastering a complex set of skills. Motivation is particularly important to this learning process, as considerable persistence and resilience is required. There are many empirical studies that show the importance of motivation, and the influences of environmental factors, on the development of music performance skills. However, these mostly focus on the school sector, and specific research in higher education settings is lacking.

This study investigates different factors that could impact on music students' learning processes and learning outcome in the context of Malaysian higher education. Hallam's (1998) *Model of Instrumental Music Learning* is adapted as the basic framework for exploring the relationships between students' motivation towards instrumental music learning, environmental factors (with a focus on parental factors), self-regulation and the measured achievement of performance. This model anticipates Biggs's *3P Model of Learning* (1987, 1999), describing music learning in three stages (presage-process-product). In addition, the relevant literature is reviewed, with a view to consolidating the theoretical bases that link the relationships between the factors identified for this study.

A mixed methods design is adopted, combining the strengths of quantitative and qualitative approaches. The quantitative data has been collected using two instruments developed on the basis of existing scales: The Music Student Survey Questionnaire, Malaysian Higher Education (2014), and the Music Performance Assessment Report. Several existing scales designed to measure self-concept, self-efficacy, personal interest, extrinsic motivation, parental involvement, and self-regulation have been adapted for use in the survey questionnaire. The music performance rating scale developed to collect achievement results for the Royal College of Music (RCM) in London has been adapted for use in the assessment report. These instruments were administered to 375 university music students and 33 examiners respectively, from seven universities. Semi-structured interviews were conducted with 19 students to collect qualitative data. Open-ended, theory-driven, and probing questions were prepared to gain an in-depth understanding of the factors that have an impact on students' music learning processes.

Ensuring rigour in research is crucial to yield meaningful and useful results. Statistical procedures including structural equation modelling using confirmatory factor

analysis, and Rasch Modelling are undertaken to validate the survey scales used in the quantitative component of this study. Various strategies including member checking, audit trail, and external/peer review are employed to ensure trustworthiness of the qualitative component.

Quantitative data analysis is carried out using the path analytic technique to investigate the postulated relationships among the factors considered in this study. The results suggest that highest qualification in music (e.g., ABRSM Grade 8) prior to entering university influenced students' achievement in music performance. The findings also show that students' level of expertise, parental factors, and motivational beliefs have significant impact on self-regulated learning. For the qualitative data analysis, a thematic analysis is conducted in order to identify and interpret the associations between significant themes/patterns that emerge from the interview data. Students indicate that parents, teachers, and university play an important role in their musical development.

The results of this study have important implications for the design of university music education and for the conduct of parent-teacher-student relationships, and may assist educators to improve and maintain students' motivation, and to enhance the quality of music learning experiences.

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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Glossary

Confirmatory factor analysis (CFA)

A statistical technique used to determine whether the hypothesised factor model yields a variance-covariance matrix similar to the observed data (Schumacker & Lomax, 2016). It is a test level analysis carried out as part of the validation procedures to review the factor structure of the scales (i.e., macro-level analysis).

Expectancy x value theory

A theory developed by Atkinson (1947), and later expanded by Eccles (1983) and her colleagues into the field of education, which explains that students' motivation and achievement are determined by expectancies for success and values of the task. The four motivational constructs examined in this study based on expectancy x value theory are: self-concept, self-efficacy, personal interest, and perceived values.

Family socio-economic status

Family socio-economic status is measured by parents' education, parents' occupation, and home possessions, which is conceptualised as the financial, cultural, and social capital of a family.

Multiple regression analysis

A general linear modelling approach to statistical analysis of data that is used to predict and explain the relationship between the dependant variable (outcome) and multiple independent variables (predictor) (Schumacker, & Lomax, 2016).

Music performance achievement

A construct used to indicate that learning outcomes are successfully achieved by music students in the performance assessment situations. It is measured using music performance rating scale consists of a set of pre-defined assessment criteria.

Path analysis

A statistical analytic technique that is extended from multiple regression. It provides estimates of the magnitude (path coefficient) and significance (*p* value) of the hypothesised causal relationships among the observed variables in a theoretical model.

Perceived value

A construct associated with students' perceived importance and usefulness of engaging in an activity to achieve a goal.

Personal interest

A construct associated with students' motivation to engage in an activity because it is intrinsically rewarding or inherently satisfying.

Rasch model

A modelling approach developed by Georg Rasch in 1960. The Rasch model is based on probabilistic assumption that is constructed as a logistic function, placing person ability and item difficulty on a common scale, known as the logit scale. It is originally developed to handle dichotomous data (e.g., yes/no), but later extended to cover a range of situations including polytomous data (e.g., rating scale).

Rasch rating scale analysis

A statistical technique based on the Rasch measurement model and used to examine the psychometric properties of the measurement scales at the item level (i.e., micro-level analysis). It considers the characteristics of individual items in terms of how they meet unidimensionality requirements (i.e., that all of the observed variables reflect a single latent variable).

Reliability

Reliability refers to the measurement of consistency and the degree to which the observed scores are free from measurement errors (Miller, 2010). Reliability is a necessary condition for validity to ensure rigour in quantitative research.

Self-concept

Students' self-perceived ability, which combines their cognitive and affective states and involves social comparison (Bong & Clark, 1999).

Self-efficacy

Students' self-perceived ability. Self-efficacy differs from self-concept that it is primarily based on cognitive self-judgement of their abilities to succeed in a specific task (Bong & Clark, 1999).

Self-regulation

Students who are metacognitively, motivationally, and behaviourally active in their own learning process (Zimmerman, 1989) are said to exhibit 'self-regulation'. They apply specific learning strategies to achieve success in relation to their goals of learning (Winne & Hadwin, 2010). A self-regulation model consists of four dimensions: (a) method: task-oriented learning strategies; (b) behaviour: metacognition and orientations toward reflective thinking of own learning; (c) time management: ability to concentrate on task and plan the use of time effectively; and (d) help-seeking behaviour: tendency to seek help from others to improve learning (McPherson & Zimmerman, 2002; Miksza, 2012).

Students' motivation

Students' behaviours that are associated with their desire to learn, engagement in learning, persistence in learning, and their academic success.

Thematic analysis

A qualitative data analysis method used to identify key words, repeated ideas, and associations between the key words/repeated ideas in a body of textual data (Guest, MacQueen & Namey, 2012).

Trustworthiness

Quality of the qualitative study that is reflected by four criteria: (a) credibility: confidence in the 'truth value' of the findings and interpretations; (b) transferability: applicability of the findings in other contexts; (c) dependability: consistency of the findings; and (d) confirmability: the extent to which the findings and interpretations are reflective of participants' perceptions (Guba, 1981).

Validity

Validity refers to the extent to which a test is measuring what it purports to measure. Validation procedures are carried out to evaluate the psychometric properties of the instruments employed in a testing situation. Valid and reliable measures are important for making useful and meaningful inferences.

Abbreviations

AEC	:	European Association of Conservatoires
AERA	:	American Educational Research Association
APA	:	American Psychological Association
ASDQ	:	Academic Self-Description Questionnaire
CFA	:	Confirmatory Factor Analysis
CTT	:	Classical Test Theory
EFA	:	Exploratory Factor Analysis
EPU	:	Economic Planning Unit
HOMES	:	Home Musical Environment Scale
IEA	:	International Association for the Evaluation of Educational Achievement
IRT	:	Item Response Theory
ML	:	Maximum Likelihood
MNSQ	:	Mean Square
MPRS	:	Music Performance Rating Scale
MSI	:	Motivation Survey Instrument
MSLQ	:	Motivated Strategies for Learning Questionnaire
NAHME	:	National Association for Music in Higher Education
NCME	:	National Council on Measurement in Education
OECD	:	Organisation for Economic Co-Operation and Development
PCM	:	Partial Credit Model
PI	:	Parental Involvement
PIM	:	Parental Involvement Measures
PISA	:	Programme for International Student Assessment
PMD	:	Prime Minister's Department
RCM	:	Royal College of Music
RQ	:	Research Question
QAA	:	Quality Assurance Agency for Higher Education
RSM	:	Rating Scale Model
SDQ	:	Self-Description Questionnaire
SEM	:	Structural Equation Modelling
SMLIM	:	Student Motivation towards Learning Instrumental Music
SPSS	:	Statistical Package for the Social Sciences
SR	:	Self-Regulation

SRPBQ	:	Self-Regulated Practice Behaviours Questionnaire
TIMSS	:	Trends in International Mathematics and Science Study
UAHREC	:	University of Adelaide Human Research and Ethics Committee
VIF	:	Variation Inflation Factors
WLE	:	Weighted Likelihood Estimation