

# Not quite so healthy: The lifestyles of music conservatoire students

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The general health-promoting behaviors and health problems of students at music conservatoires were investigated via an online survey completed by a total of 272 students from the Royal Northern College of Music (RNCM, n=199) and the Royal College of Music (RCM, n=73). The Health-Promoting Lifestyles Profile (HPLPII) was administered in combination with an ad hoc inventory on musculoskeletal pain and selected psychosomatic problems. The present study further explores (a) the differentiation of subgroups of the sample on the basis of levels of self-reported health-promoting behaviors and (b) the influence of musculoskeletal (MS) and non-musculoskeletal (NMS) problems on practice and performance quality. Cluster analysis of participants' responses identified one group performing above and one group below average for scores representing the frequency of engagement in health-promoting behaviors. No differences were found between these groups in relation to other health-related variables. Concurrent health issues, especially when MS and NMS problems occurred simultaneously, significantly influenced self-reported practice and performance quality. These results suggest that healthy lifestyles *per se* do not predict the amount of actual health issues. The accumulation of health problems, however, has measurable subjective influence on practice and performance quality.

*Keywords:* health-promoting lifestyles; students; music performance; musculoskeletal pain; psychosomatic symptoms

Professional musicians, including music students, are prone to health problems as both a direct and indirect result of practice and performance on their individual instruments (e.g. Wynn Parry 2004). Thus, the self-pro-

motion of physical and mental health and wellbeing should be a primary strategy for developing and maintaining musical excellence.

To investigate this notion, the general health-promoting behaviors and health problems of students at music conservatoires were addressed in an online survey along with additional psychological variables. Levels of healthy behaviors and their relationship to self-efficacy, self-regulation, and affective state were assessed (Kreutz *et al.* in press), as well as relationships between psychometric measures and incidences of health problems among different groups of instrumentalists (Kreutz *et al.* submitted). Results showed varying levels of healthy behaviors among students with respect to different subscales of the HPLPII inventory. In particular, values for health responsibility, physical activity, and stress management were below average, whereas somewhat higher values were observed for nutrition, interpersonal relationship, and spiritual growth. Significant correlations were observed between healthy behaviors and the psychological variables, which indicated mutual influences between these behaviors and self-beliefs as well as emotional state. Approximately half of the sample was affected by at least one incidence of above average or severe musculoskeletal pain and one incidence of a non-musculoskeletal (psychosomatic) symptom. Factor analysis of health problems produced a six-component solution, five of which were related to musculoskeletal pain, and one was related to symptoms of fatigue. These factor scores accounted for totals of between 15% and 27% of variance explained in a regression analysis to predict practice and performance quality (Kreutz *et al.* submitted).

The present study was designed to extend the previous reports. Specifically, I sought (1) to explore further the relationship between individuals' levels of healthy behaviors and incidences of health issues and (2) to identify any influence of health issues on self-reported measures of practice and performance quality.

## METHOD

### Participants

A total of 273 students (174 female, 99 male; mean age=21.94 years, SD=3.15) from the RNCM (n=199) and the RCM (n=74) responded to the survey. They represent approximately 29.7% (RNCM) and 10.6% (RCM) of the total student populations at these conservatoires.

## Materials

A battery of questionnaires was administered. The first was designed to collect basic demographic information: age, sex, affiliation to one of the two conservatoires, year of study, main instrument played, and estimated hours of practice undertaken each week. The instruments used to measure the variables of interest were the Health-Promoting Lifestyle Inventory (HPLPII) and a self-developed inventory on musculoskeletal and non-musculoskeletal symptoms. The HPLPII measures the frequency of engagement in health-promoting behaviors. It consists of 52 items that are rated on a 4-point Likert-type scale: 1 (never), 2 (occasionally), 3 (frequently), and 4 (routinely). Scores for all items thus range from 52 to 208 with a midpoint of 130 (Walker *et al.* 1987). This instrument provides a total score for health-promoting behavior, as well as six subscales (see “Results”). Musculoskeletal and non-musculoskeletal symptoms were rated on a 5-point Likert-type scale: 1 (non-existent), 2 (below average), 3 (average), 4 (above average), and 5 (severe). Finally, participants rated their perceived practice and performance quality over the past week on similar 5-point Likert-type scales. Specifically, it was asked whether they were able to practice with their usual technique, spend their usual amount of time practicing and performing, and whether they were able to practice and perform up to their usual standard.

## Procedure

Participants were invited via e-mail to take part in a survey, referred to as the “RNCM/RCM Health Survey.” The survey itself was constructed using the environment provided by SurveyMonkey® to which the measurement instruments were adapted. First, the welcome page informed the respondents about the nature, purpose, and scope of the study and provided an opportunity to give informed consent. Respondents provided basic demographic and musical background information on the next pages. All respondents were then directed to the inventories, of which the HPLPII and the specially constructed health survey are relevant to the present study.

## RESULTS

To check whether any subgroups among the participants with varying levels of health-promoting lifestyles could be identified, the frequency distribution was plotted by means of a histogram representing 0.2 scale-steps per bar. Visual inspection suggested the presence of two peaks within this distribution. To explore this possibility further, a hierarchic cluster analysis

Table 1. Means (and SD) of HPLPII total and subscale scores for the clusters A (n=49) and B (n=199).

HPLPII	Cluster A	Cluster B	t-value
Total	2.32 (0.29)	3.05 (0.18)	18.07*
Health responsibility	1.65 (0.37)	2.50 (0.51)	13.19*
Physical activity	2.06 (0.54)	2.80 (0.58)	8.37*
Stress management	2.12 (0.39)	2.71 (0.48)	9.15*
Nutrition	2.58 (0.52)	3.38 (0.32)	10.20*
Interpersonal relations	2.82 (0.49)	3.47 (0.38)	8.45*
Spiritual Growth	2.75 (0.50)	3.45 (0.35)	9.22*

\*  $p < 0.001$

procedure was performed on the data using the median method. A solution comprising two clusters was found to converge after four out of ten iterations. The mean difference of the two clusters was significant,  $t(243)=16.72$ ,  $p < 0.001$ . A repeated measures analysis of variance (ANOVA) was performed in which the two clusters served as independent variables and the values for the six subscales of the HPLPII were entered as dependent measures. A significant and robust main effect of subscale was observed,  $F(5,1215)=174.49$ ,  $p < 0.0001$ , partial  $\eta^2=0.42$ , while the interaction between subscales and cluster variables only approached significance,  $p=0.09$ , suggesting that the score differences are consistent across the individual subscales. In fact, mean comparisons of each subscale revealed significant differences across all aspects of healthy behaviors, all  $t(243) > 8.03$ ,  $p < 0.001$ . Table 1 summarizes the means of HPLPII scores (total and subscales) for the two clusters and t-values from the comparison of means test. However, it was not possible to identify any statistically reliable dissociation of health problems on the basis of the two groups represented by these clusters.

To address the second research question, first the incidences of above average (scale point 4) and severe (point 5) musculoskeletal pain across the body (including head, spine, and upper limbs) as well as the incidences of psychosomatic symptoms (see Kreutz *et al.* submitted) were calculated per individual. Of the 246 individuals who completed the relevant questionnaires in full, 84 (34.1%) reported themselves to be free of any such symptoms. A further 84 (34.1%) reported at least one incidence of both musculoskeletal pain and at least one non-musculoskeletal symptom. The remaining participants formed two approximately equal groups: 34 individuals (13.8%)

Table 2. Subsets from posthoc comparisons of means representing influences of health problems on standard of practice and performance.

	<i>n</i>	<i>Subsets for alpha=0.05</i>			
		<i>Practice</i>		<i>Performance</i>	
		<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>
No problems	84	1.60		1.49	
Musculoskeletal only	44		2.21		2.18
Non-musculoskeletal only	34		2.25		2.36
MS and NMS combined	84		2.69		2.43

Note. A 5-point rating scale was used, from 1 (no interference) to 5 (strong interference) with practice.

reported at least one incidence of musculoskeletal pain and 44 (17.9%) reported at least one incidence of a non-musculoskeletal problem.

To assess any influences of health issues represented in these groups on perceived practice and performance quality, univariate ANOVA procedures were performed. Results were similar for the five scales representing practice and performance quality. Significant main effects were observed for each of the scales, all  $F(3,242) > 10.08$ ,  $p < 0.001$ . Posthoc comparisons using Scheffe's test suggested two homogeneous groups (see Table 2).

## DISCUSSION

This study follows up investigations of healthy lifestyles and health problems in music students from two UK conservatoires (Kreutz *et al.* in press, submitted). Two questions were raised. First, it was asked whether subgroups of students adhering to different levels of healthy behaviors were also attracted to different health problems, and second, whether incidences of health problems were associated with self-reported measures of practice and performance quality.

Two subgroups reporting low and high adherence to healthy lifestyles were identified. The smaller, high-adherence group may be characterized by a linear positive shift of judgments of healthy behaviors as compared to the low-adherence group. Thus, the analysis fails to identify groups of individuals that might attribute different *relative* weights to their healthy lifestyles. There were consistent mean differences across all subscales, indicating that the two groups were very similar in their *relative* rather than *absolute* assessments of components of self-reported healthy behaviors. The absolute differences in these groups may thus indicate difficulties reporting actual levels of healthy

lifestyles but at least suggest a consistent use of the measurement instrument. Despite the large variances of individual levels of healthy lifestyles, music students appear to be a surprisingly homogeneous group in this respect.

The second finding is the combination of musculoskeletal and non-musculoskeletal health issues that most strongly influenced self-reported practice and performance quality. Although not reported in this study, it may be noted that the presence of MS and/or NMS issues to some extent also affected psychological variables (data are not reported here due to space limitations). The present results suggest that the accumulation of health issues does seem to impact on music practice and performance.

Limitations of the study should be noted with respect to the reliance on self-reports only. Moreover, no conclusions can be drawn as to whether the observed data generalize across other student populations. Therefore, future investigations should advocate a systems level approach to musicians' healthy lifestyles by using objective measures that should reflect the physical and mental needs of a highly demanding profession.

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