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Introduction

Many epidemiological surveys on playing-related musculoskeletal disorders (PRMDs) have been carried out among professional musicians, but none evaluated or confirmed the psychometric properties of the self-report instruments that were used.1,2

Aims

The aim of the study was to develop and validate a self-report instrument to measure musculoskeletal (MSK) pain, and pain interference in terms of function and psychosocial constructs, for a population of professional orchestra musicians. A subsidiary aim was to gather data on prevalence of PRMDs.

Methods

• 183 professional orchestra musicians were eligible to participate in the study.
• Development of the Musculoskeletal Pain Intensity and Interference Questionnaire for Musicians (MPIIQM) involved the selection and modification of the most appropriate instruments measuring MSK pain.
• Guidelines from the Consensus-based standards for the selection of health measurement instruments (COSMIN) checklist were followed.3
• Psychometric evaluation was then carried out, focusing on face and content validity,4 construct validity using exploratory factor analysis (EFA), internal consistency, and test-retest reliability.5,6

Results

• The response rate from orchestra musicians was 55% (n = 101).
• Point prevalence of PRMDs was 36.6% (n = 37). The percentage of missing scores was very low (2.7%).
• Face and content validity were ascertained by the expert panels. Content validity ratios (CVR) were calculated for each item.
• EFA revealed that the MPIIQM had a strong and stable two-factor structure, with nine retained items explaining 71.3% of the variance in the data set. (Table 1).
• High internal consistency was achieved for each subscale (Cronbach’s alpha = 0.91).
• Substantial test-retest reliability for the pain intensity items (range 0.78 – 0.82), and moderate to substantial test-retest reliability for the pain interference items (range 0.56 – 0.76) were obtained.

Table 1 Factor loadings for the 9 core items of the MPIIQM following EFA with principal axis factoring (oblique rotation)

<table>
<thead>
<tr>
<th>Questionnaire Item</th>
<th>Factor 1 Pain Intensity</th>
<th>Factor 2 Pain Interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst pain</td>
<td>0.830</td>
<td></td>
</tr>
<tr>
<td>Least pain</td>
<td>0.814</td>
<td></td>
</tr>
<tr>
<td>Average pain</td>
<td>0.979</td>
<td></td>
</tr>
<tr>
<td>Pain right now</td>
<td>0.783</td>
<td></td>
</tr>
<tr>
<td>Mood</td>
<td></td>
<td>0.848</td>
</tr>
<tr>
<td>Enjoyment of life</td>
<td></td>
<td>0.818</td>
</tr>
<tr>
<td>Using your usual technique</td>
<td></td>
<td>0.797</td>
</tr>
<tr>
<td>Playing because of symptoms</td>
<td></td>
<td>0.695</td>
</tr>
<tr>
<td>Playing as well as you would like</td>
<td></td>
<td>0.895</td>
</tr>
</tbody>
</table>

Conclusions & Recommendations

• The MPIIQM is a valid and reliable self-report instrument for the measurement of MSK pain and pain interference in a population of professional orchestra musicians.
• It is compliant with the principles set out by the World Health Organisation in the international classification of functioning, disability and health (ICF).7
• Due to its evaluative properties,8 this instrument could also be used as a screening or injury surveillance tool within the context of health and safety in professional orchestras.

References


Acknowledgements

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Further Information

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