Using the Health Belief Model to Predict Concussion Reporting Intentions and Behavior

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Introduction

- Historically, the Theory of Planned Behavior has been used to examine concussion reporting behavior.¹,²,³
- However, the theory does not account for factors such as an individual’s perceived susceptibility, or barriers to reporting their injury, which are included in the Health Belief Model (HBM).⁴
- Therefore, the HBM may be more appropriate in understanding and gaining insight into why individuals report or conceal a concussion.
- The purpose of this study was to determine whether constructs of the HBM predict:
  - Concussion reporting intentions (symptom and concussion reporting) and
  - Behavior (symptom and concussion reporting)

Methods

- We recruited student-athletes from three universities in the Southeast.
- The HBM survey includes the following sections:
  - Knowledge
  - Perceived susceptibility
  - Perceived severity
  - Perceived benefits of taking action
  - Barriers to taking action
  - Cues to action
- We also asked participants to complete surveys regarding:
  - Concussion reporting intentions (symptom and concussion reporting)
  - Behavior (symptom and concussion reporting)
- The HBM sections and intentions were averaged.
- Responses to both symptom and concussion reporting behavior were used to categorize participants as "reporters" or "non-reporters".
- We conducted four separate multivariate regression analyses for HBM sections to predict:
  - Concussion reporting intentions
  - Two linear-symptom and concussion reporting
  - Concussion reporting behavior
  - Two logistic-symptom and concussion reporting

Table 1: Health Belief Model multivariable enter logistic regression analysis results for symptom and concussion reporting intentions.

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Estimates</th>
<th>Standard Error</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>6.01</td>
<td>0.08</td>
<td>0.000</td>
</tr>
<tr>
<td>Survey Administration Mode, Educational Module</td>
<td>-1.20</td>
<td>0.15</td>
<td>0.183</td>
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<tr>
<td>Knowledge</td>
<td>-0.08</td>
<td>0.04</td>
<td>0.125</td>
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<tr>
<td>Perceived Susceptibility</td>
<td>-0.27</td>
<td>0.07</td>
<td>0.271</td>
</tr>
<tr>
<td>Perceived Severity</td>
<td>-0.07</td>
<td>0.07</td>
<td>0.537</td>
</tr>
<tr>
<td>Perceived Benefits</td>
<td>-0.11</td>
<td>0.08</td>
<td>0.143</td>
</tr>
<tr>
<td>Perceived Barriers</td>
<td>0.11</td>
<td>0.08</td>
<td>0.151</td>
</tr>
<tr>
<td>Cues to Action</td>
<td>0.25</td>
<td>0.10</td>
<td>0.016*</td>
</tr>
</tbody>
</table>

Conclusions

- Cues to action, or a 'trigger' to perform action was a predictor of concussion reporting intentions and behavior.
- To increase concussion reporting, clinicians should:
  1) limit perceived barriers such dispelling that reporting a concussion would let the student-athlete’s teammates down
  2) increase perceived benefits such as positive views towards long-term health, but most importantly
  3) encourage stakeholders to cue student-athletes to act (i.e., discuss with a health care professional) if faced with a suspected concussion.
- Future research should examine if the HBM predicts concussion reporting behavior in other populations such as pediatric or professional athletes.

References


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