Analysis of the Perception of the Effort Between Players and Coaches in Minibasket Competition

Maite Fuentes-Azpíroz1, Sebastián Feu2, Julio Calleja-González3 & Ana Concepción Jiménez4

Abstract
This article analyzed the existing relationship between the subjective perception of effort (RPE) expressed by players and coaches during mini-basket competition and assess the perception of coaches based on the characteristics of the competition. One hundred and fifty players (67 boys and 83 girls) and 25 coaches (19 men and 6 women) participated in this study. For the record of the RPE, the pictorial scale (Eston and Parfitt, 2007) was used. The records were made individually to the players and coaches (at the end of each game period) and to the coaches (at the end of the game). A cross-sectional, descriptive, ex post-facto study was designed using a survey to collect information on the characteristics of training and competition. The results described that players expressed mean RPE = 4.41 ± 1.6 AU. On the other hand, coaches on the RPE of their players as moderate (M = 4.66 ± 1.82 AU), not observing significant differences in RPE according to the sex of the athletes (U = 5060.00; p = .060), the phase of the championship (X² = .535; p = .765) and the degree of equilibrium of the period (X² = 5.532; p = .063). However, significant differences were found in the coach's perception of victory (M±SD = 3.91 ± 1.46) or defeat (M±SD = 4.98 ± 1.59) in the match (U = 5265.00; p < .05; d = .34). Therefore, we can conclude that the RPE expressed by the coaches agrees with the RPE average of the participants of the competition.

Keywords: Perception of the effort, coach, player, mini-basket

Introduction
In the previous studies about the RPE in team sports, the knowledge about RPE on the part of the trainer and of the athletes, in order to the technical coaches may have an overview of the control of the competition load (Calahorro, Torres-Luque, Lara-Sánchez, 2014). In this sense, and in particular in basketball, Kraft Laurent, Green, Helm, Roberts, and Holt, in 2018, observed significant differences between the trainer evaluation and the players’ perception of the intensity. However, in a later analysis, Peres and Del Campo in (2011) found no significant differences regarding the RPE expressed by players, strength and conditioning coaches in a men's basketball team. This divergence, given the paucity of work and the existence of conflicting results, evidences the lack of knowledge of this tool, not only in team sports, but also in basketball. In particular with children, the specific training in Minibasket, the number of training and weekly sessions and the duration of the sessions are predictors of a minor RPE in the players (Fuentes, Feu, Jiménez, and Calleja-González, 2013). Now at days, there are no investigations to verify its effectiveness for the best of author’s knowledge. Therefore, the objective of the study is to analyze the relationship between the RPE expressed by players and coaches in a mini-basket competition, and to assess the coaches’ perception according to the sex of their athletes, the championship phase, and the degree of balance of the period and victory or defeat.

Methodological procedures

Design
A cross-sectional, descriptive, ex post-facto study was designed to analyze the RPE of players and coaches, using a survey to collect information on the general and training characteristics (Thomas, Nelson, Silverman, 2011).

Participants
Participants included 150 athletes (67 boys and 83 girls), with a mean age of 11.34 ± 0.48 years, and 25 coaches (19 men and 6 women) adults > 18 years. The ethics protocol of the University of the Basque Country was followed, according to the declaration of Helsinki (Fortaleza, 2013), by means of a written consent to the families since they were minors.

1 Departamento de Educación Física y Deportiva. Facultad de Ciencias de Educación y Deporte. Universidad del País Vasco / Euskal Herriko Unibertsitatea (UPV/EHU). Lasarte Abari, 71. 01007 Vitoria-Gasteiz. (Araba) España. E-mail: maite.fuentes@ehu.eus
2 Universidad de Extremadura
3 Universidad de Extremadura
4 Universidad Politécnica de Madrid

Instruments
RPE records (230) were made to the coaches and players, using the pictorial scale of Eston and Parfitt (2007), and 227 registrations to the coaches.

Procedure
Records were made individually to players and players at the end of each game period, to avoid influences (Muyor, Vaquero-Cristóbal, Alacid, and López-Miñarro, 2015). Strength and conditioning coaches and coaches estimated the RPE at the end of the game for each player and player.

Data Analysis
The data were analyzed through a descriptive, inferential and correlational analysis, using non-parametric tests as the normal distribution of data was not observed. We used SPSS, V21.0.

Results
The players expressed an average RPE = 4.41 ± 1.6 U.A. (Table 1). Coaches rated their players’ RPE as moderate (M±SD = 4.66 ± 1.82 U.A). Likewise, there were no significant differences in RPE indicated by coaches according to the sex of the athletes (U = 5060.00; p = .060), the championship phase (X² = .535; p = .765) and the degree of equilibrium of the party (X² = 5.532; p = .063). However, significant differences were found in the coach’s perception of victory (M±SD = 3.91 ± 1.46 U.A) or defeat (M = 4.98 ± 1.59 U.A) in the match (U = 5265.00; p < .05; d = .34). The results of the statistical analysis showed that there is a significant correlation between the RPEaverage of the players and the coaches in the four periods (RS = .374; p < .01) (Table 2).

Table 1
Players RPE in each period

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Average</th>
<th>Tip. Desv.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPE 1ºT</td>
<td>118</td>
<td>1</td>
<td>10</td>
<td>4.50</td>
<td>1.88</td>
</tr>
<tr>
<td>RPE 2ºT</td>
<td>120</td>
<td>1</td>
<td>9</td>
<td>4.39</td>
<td>1.74</td>
</tr>
<tr>
<td>RPE 3ºT</td>
<td>121</td>
<td>1</td>
<td>10</td>
<td>4.50</td>
<td>1.95</td>
</tr>
<tr>
<td>RPE 4ºT</td>
<td>178</td>
<td>1</td>
<td>10</td>
<td>4.21</td>
<td>1.82</td>
</tr>
<tr>
<td>RPEaverage</td>
<td>230</td>
<td>1</td>
<td>9</td>
<td>4.41</td>
<td>1.61</td>
</tr>
</tbody>
</table>

Discussion
For the best of our knowledge, this is the first study analyzing the difference between coaches and mini-basket players and it can conclude that the RPE expressed by the coaches agrees with the RPEaverage of the participants of the competition. Predominantly a moderate intensity RPE that characterizes the competition (Fuentes, Feu, Jiménez, and Calleja-González, 2013) with respect to intensity of play, with an alternation of intense, medium and low actions (Refoyo, 2001). Investigations carried out in swimming show significant differences between the RPE of the athletes and the estimates made by the trainers (p < .003) in low (RPE ≤ 2) and high intensity (RPE ≥ 5) training, indicating as cause of this difference, lack of communication between swimmers and coaches and poor assesment of training load control variables (Wallace, Coutts, Gordon, Simpson, and Slattery, 2008). In that way, data obtained in athletics indicate that there are significant differences (p < .05) between the RPE expressed by the coaches and data of the athletes in low intensity sessions (RPE = 1.8 ± 0.5 U.A vs. RPEplayer = 2.4 ± 1.4 U.A; p < .05), and high intensity (RPE = 7.1 ± 1.2 vs. RPEplayer = 6.2 ± 2.5). No significant differences were observed for those intermediate intensity sessions. These data are consistent with the concept that one of the usual mistakes is the tendency to return the training load to the middle levels, rather than maintaining polarity (Foster, Heimann,
El presente trabajo ha analizado la relación existente entre la percepción subjetiva del esfuerzo (RPE) que expresan los jugadores y los entrenadores en una competición de minibasket. Los participantes fueron 150 jugadores (67 niños y 83 niñas) y 25 entrenadores (19 hombres y 6 mujeres). Para el registro de la RPE se utilizó la escala pictórica de Eston y Parfitt (2007). Los registros se realizaron de forma individual a los jugadores y jugadoras al final de cada período de juego, y a los entrenadores y entrenadoras al final del partido. Se diseñó un estudio transversal, descriptivo, ex post-facto, para el análisis de la RPE de los jugadores y jugadoras, utilizando una encuesta para la recogida de información sobre las características generales y las características del entrenamiento (Thomas, Nelson, Silverman, 2011). Los datos fueron analizados a través de un análisis descriptivo, inferencial y correlacional. Los resultados describen que los jugadores expresaron una media de RPE= 4.41±1.6. Por su parte, los entrenadores valoraron la RPE de sus jugadores como moderada (M= 4.66±1.82 UA), no observando diferencias significativas en RPE en función del sexo de los y la de deportistas (U= 5060.00; p=.060), la fase del campeonato (X²=5.532; p=.063). Sin embargo, si se encontraron diferencias significativas en la percepción del entrenador en función de la victoria (M= 3.91±1.46) o derrota (M= 4.98±1.59) en el partido (U= 5265.00; p<.05; d=.34). Por tanto, podemos concluir que la RPE expresada por los entrenadores coincide con la RPE media expresada por los participantes de la competición.

**Palabras clave:** percepción subjetiva de esfuerzo; entrenador y jugador; minibasket.
descrevem que os jogadores expressaram uma média de RPE= 4.41±1.6. Por sua vez, os treinadores valorizaram a RPE dos seus jogadores como moderada (M= 4.66±1.8 U.A), não observando diferenças significativas no RPE em função do sexo dos e das deportistas (U= 5060.00; p=.060), a fase do campeonato (X²= .535; p=.765) e o grau de equilíbrio do jogo (X²= 5.532; p=.063). No entanto, foram encontradas diferenças significativas na percepção do treinador em função da vitória (M= 3.91±1.46) ou derrota (M= 4.98±1.59) no jogo (U= 5265.00; p<.05; d=.34). Portanto, podemos concluir que a RPE expressada pelos treinadores coincide com a RPE media dos participantes da competição.

Palavras chave: percepção subjetiva do esforço; treinador e jogador; minibasket

References


