The Conditions for a "Good" Athletic Shoe: A Questionnaire Survey of Basketball Shoes

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Abstract
The conditions necessary for a "good" athletic shoe seem to be a matter of personal preference and experience. There is, however, a general consensus that people like a shoe which fits well, is comfortable to wear, and feels good.

This paper studied the conditions for perceiving a shoe to be a "good" athletic shoe, specifically a basketball shoe. The study used a questionnaire survey to achieve the following purposes:

1) To understand how people perceive the meaning of: "comfortable", "fits well", and "feels good," in relation to a basketball shoe.
2) To investigate how much each feature of a basketball shoe contributes to a wearer's perception of comfort, fit, and feel.
3) To find the degree of importance of each part of a basketball shoe in determining overall satisfaction.

The results showed that the three terms - comfort, fit, and feel - were found to be highly intercorrelated (greater than 0.80). Therefore, people might perceive comfort, fit, and feel as conceptually non-discrete.

The conditions associated with a good basketball shoe were discovered to be:
1) A shoe with a mid-cut collar height.
2) A shoe that provides features that give the sensation of a "little tight" fit.
3) A shoe in which the rearfoot area, which includes the heel, collar, and arch area was more salient than the other parts of the basketball shoe.

1. Introduction
A shoe consists of many parts and features that can influence whether people perceive it to be a "good" shoe that they are willing to buy and wear. See figure 1.

Consequently, a shoe could be considered as a good shoe due to its style, color, price, weight, brand, or numerous other characteristics, depending on a shoe wearer's preference and experience. There is, however, a general consensus that people want a shoe that fits well, is comfortable to wear, and feels good (Kreifeldt and Nah, 1994).

This paper investigated the conditions for perceiving a shoe to be a "good" athletic shoe, focusing on a basketball shoe. The study used a questionnaire survey to achieve the following purposes:

1) To understand how people perceive the meaning of: a "comfortable" shoe, a shoe that "fits well," and a shoe that "feels good."
2) To investigate the extent that each feature of a
basketball shoe contributes to a wearer's perception of comfort, fit, and feel.

3) To find the degree of importance of each part of a basketball shoe in determining overall satisfaction.

2. Questionnaire Survey

Methods

A list was compiled of more than 25 features of a basketball shoe that were considered important for being a good shoe. They were, for example, breathability, cushioning, flexibility, support, stability, traction (resistance to slippage), the tongue, brand, weight, and other features. The subjects were asked to evaluate on a scale of 0 to 10 (0 = none, 5 = moderate, and 10 = high) the importance of each feature to comfort, fit, and feel of the shoe.

The basketball shoe was then divided into nine important areas in order to examine the degree of contribution of each area to overall satisfaction as shown in figure 2. The areas were: 1) tip of the toe, 2) toe box, 3) forefoot bottom (parts under the forefoot including the insole, midsole, and outsole), 4) ball joint, 5) arch, 6) midfoot upper (parts including instep, tongue, and laces), 7) rearfoot bottom, 8) heel area (parts including the heel counter and the ankle support), and 9) the collar.

Figure 2. The 9 areas of the basketball shoe

Questions about preferred height of the basketball shoes and preferred feeling of fit were also asked along with questions on some background descriptions of the respondents.

About one hundred fifty questionnaires were distributed to people who currently play or previously played basketball or who wear basketball shoes. One hundred copies were returned for the analysis. SPSS (Statistical Package for Social Sciences) program was used for data analysis.

Results

Table 1 shows distributions of the respondents to the questionnaire by age and the frequency of playing basketball.

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency of Playing Basketball</th>
<th>Under 25 yr. old</th>
<th>Over 26 yr. old</th>
<th>3 times or more/week</th>
<th>2 times or less/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 25 yr.</td>
<td>78%</td>
<td></td>
<td>22%</td>
<td>76%</td>
<td>24%</td>
</tr>
</tbody>
</table>

The three words - comfort, fit, and feel - were found to be highly intercorrelated each other, as shown in Table 2.

<table>
<thead>
<tr>
<th>Comfort</th>
<th>Fit</th>
<th>Feel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>0.84</td>
<td>0.85</td>
</tr>
<tr>
<td>Fit</td>
<td>0.84</td>
<td>0.80</td>
</tr>
<tr>
<td>Feel</td>
<td>0.85</td>
<td>0.80</td>
</tr>
</tbody>
</table>

The most preferred height of basketball shoe was a mid-cut followed by high-top and low-top. Also, the respondents preferred the feeling of a “little tight” fit. (Refer to figure 3.)

Figure 3. Preferred height and feeling of fit
Figure 4. The importance of features of shoe

Figure 5 presents the percentage of the respondents who indicated the importance of each area to overall satisfaction was greater than moderately important (≥ 5 on the scale) or highly important (≥ 8 on the scale). More than 90% of the participants replied that the areas of the arch, rearfoot bottom, heel, and collar were more than moderately important. More than 50% of the respondents rated the areas such as midfoot upper, rearfoot bottom, arch, collar, and heel as highly important. Consequently, the areas in the back of basketball shoe, such as the arch, rearfoot bottom, heel and collar, are considered more important than the other areas in satisfying basketball shoe wearers. With a more lenient cut-off, other areas could have been included but the 90% and 50% cut-offs reflect a significant consensus about the importance of the four areas.

Figure 5. Rating of each area by the response percentage

The original and a distorted picture of a basketball shoe is shown in Figure 6. The distorted picture of a basketball shoe is constructed based on the average contribution of each of the 9 areas to overall satisfaction. The more the area is distorted, the more important it is for the overall satisfaction.

Figure 6. The distorted picture of basketball shoe

3. Discussion

The high correlation coefficients among comfort, fit, and feel suggested that people perceive comfort, fit, and feel to be the same concept even if they use three different expressions in describing their feeling of a shoe. There also existed a rank order relation among comfort, fit, and feel. A t-test concluded that people considered "feel" as the most important factor, followed by comfort and fit. The importance of "feeling good," however, was based on the presence of an acceptable basic level of comfort and fit.

4. Conclusion

This questionnaire survey concluded that two conditions are fairly determinative in a good basketball shoe:

1) A mid-cut basketball shoe is the most preferred.
2) It should have features that can give the feeling of a "little tight" fit.

The survey also indicated that the efforts for improving a basketball shoe should be focused on the rearfoot area, which includes heel and collar, and arch area.

Further studies with other athletic shoes such as football or soccer shoes, are needed for comparison.

References

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