

The Influence of Informed Decision-Making on Brand Preference Amongst Teenage Male Athletes

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Abstract

This study examines how informing teenage male basketball players about the performance-enhancing attributes of basketball shoes affects their brand preference. Using a quasi-experimental two-phase survey design administered across local sports facilities in Central New Jersey, forty participants were surveyed before and after being informed about herringbone tread patterns as a key performance-enhancing feature. Phase one established baseline brand preferences among uninformed participants, while phase two assessed preference shifts following verbal education on tread pattern benefits. Results demonstrated a 150% increase in votes for the Li-Ning Gamma, the only shoe featuring a herringbone tread pattern, while the Puma All-Pro NITRO experienced a 100% decline in votes. A One-Tailed Two-Proportion Z-Test yielded a z-value of 1.72, exceeding the critical value of 1.645 and confirming statistical significance. These findings suggest that informed decision-making meaningfully alters brand preference among teenage male athletes, with implications for athletic marketing, consumer education, and future research on adolescent purchasing behavior.

Introduction

According to the International Journal of Social Science and Economic Research, the Air Jordan brand alone amassed roughly \$5.122 billion in revenue in 2022, with that figure trending upward over the past decade (Nijhawan, 2024). The broader athletic footwear market reflects similarly dramatic growth, with companies such as Nike deriving approximately 62% of their total revenue from athletic shoes (Cuofano, 2024). Despite the billions of dollars invested in athletic footwear globally, many consumers still struggle to identify the best-performing options for their specific needs.

Basketball players represent one such group. With social media amplifying persuasive brand campaigns and professional athletes endorsing a wide array of products, it has become increasingly difficult for consumers to evaluate basketball shoes on the basis of performance alone. The formation of brand preference further inhibits objective judgment, leading many consumers to overlook certain shoes solely because of their brand association. Teenagers have been shown to be particularly susceptible to this dynamic, exhibiting higher rates of acquiring brand preference than any other demographic surveyed (Srivastava et al., 2025).

In hopes of determining what factors affect this acquired brand preference, this study was designed to examine how brand preference is altered among teenage male basketball players when they are informed of the performance-enhancing attributes of basketball shoes, specifically tread pattern. The central research question asks how understanding key performance-enhancing aspects of basketball shoes influences teenage male basketball players to make more informed purchasing decisions and alter brand preference in Central New Jersey. The hypothesis posits that informing athletes of these attributes will result in decreased brand preference toward major brands such as Nike, Adidas, and Puma, and a corresponding increase in preference for the most performance-enhancing brand.

Literature Review

Tread Pattern

Tread pattern, defined as the pattern of grooves and indentations on the bottom of sneakers, emerges as one of the most performance-enhancing attributes of a basketball shoe (Valiant, 1986). Worobets and Wannop (2015), writing for the *Journal of Sports Biomechanics*, tested numerous shoe attributes including tread pattern, shoe mass, and midsole stiffness, and found that tread pattern displayed the most significant capacity for altering athlete performance, with certain designs producing more substantial benefits than other factors. The effects of tread pattern on basketball performance have been studied since at least 1986, when Valiant tested rotational and translational movement across multiple shoe types and concluded that a circular pattern provided the greatest performance advantages.

More recent studies have refined this understanding. Yadav and associates (2025) from the Indian Institute of Technology examined fifteen different basketball shoe tread patterns across hardwood, synthetic, and polyurethane courts in both wet and dry conditions, concluding through robotic slip testing that a herringbone traction pattern offered the highest overall traction. Similar

conclusions were reached by Hemler and associates (2021) in the *Journal of Footwear Science*, whose longitudinal analysis of outsole deterioration over eleven months found that shoes with open tread channels and deep grooves provided minimal slippage on wet or dusty surfaces. While minor debate persists regarding which specific pattern is optimal, there is broad scholarly consensus that tread pattern meaningfully enhances athletic performance, with the herringbone pattern emerging as the leading recommendation in contemporary research. Despite this body of evidence, there is a paucity of research investigating whether consumers are aware of these performance realities or whether such knowledge affects their purchasing decisions, constituting a notable gap in the literature.

Teenagers and Brand Preference

Teenagers have been consistently identified as a population particularly susceptible to brand preference formation. Researchers from the *Review of Management and Entrepreneurship* found that peer perspectives and approval exert a large influence on purchase intentions among adolescent consumers, with athletes tending to select brands that their peers regard as popular or socially acceptable (Gunawan et al., 2023). Researchers from the *Journal of Business Research* similarly observed that teenagers often prefer brands that allow them to better fit in socially, with status signaling playing a prominent role in brand selection (Gil et al., 2012). Social media amplifies these tendencies through the Fear of Missing Out, as Indian researchers from the *Journal of Marketing and Social Research* found that teenagers demonstrated higher susceptibility to peer-influenced purchasing intentions when they used social media more frequently (Srivastava et al., 2025).

Notably, studies such as those by Gunawan et al. and Srivastava et al. examine the relationship between brand preference and external factors including peer influence, consumer trust, and social media, but do not address how informed decision-making might mediate or alter brand preference. This represents a consistent gap across the literature in this domain.

Gap in the Literature

Many of the studies examining brand preference among teenagers were conducted in Asian contexts, including Indonesia and India, substantially limiting their generalisability to United States populations where demographics of race and socioeconomic background differ significantly. Additionally, while existing studies document the presence of brand bias among teenagers and its mediation by external stimuli such as peer influence and social media, there is limited coverage of how being informed on specific performance-enhancing attributes affects that bias. This study aims to address both gaps by surveying teenage male athletes in the racially diverse context of Central

New Jersey and examining how informed decision-making specifically alters brand preference.

Methodology

A quasi-experimental method was employed to investigate how informed decision-making affects brand preference among teenage male athletes in Central New Jersey. As defined by Leedy and Ormrod (2019), a quasi-experimental design involves controlling all influential factors except those whose effects are the focus of investigation, with the exception of certain confounding variables that are impractical or impossible to eliminate. This method allowed for the isolation of the independent variable, informed decision-making, while controlling external factors to better determine its effects on brand preference.

Surveys were administered via Google Forms, a method adapted from Srivastava and associates (2025), who used surveys to analyse connections between social media, consumer trust, and brand preference. Surveys were selected over interviews to minimise participant time commitment and reduce the risk of the Hawthorne effect, in which participant responses may be altered by awareness of direct observation. Participants completed surveys independently, promoting more honest and uninfluenced responses.

After obtaining written managerial consent, participants were surveyed at local sports facilities in Central New Jersey, a region chosen for its racial diversity, composed of approximately 55% White, 13% Black, 22% Hispanic, and 10% Asian citizens (NJLM, 2021). Only male participants were selected to maintain consistency within the sample and reduce variability attributable to gender differences. Written consent was obtained from both participants and their parents prior to participation. No personal identifying information, including names or ethnicity, was recorded to preserve anonymity.

In the first phase, participants selected one of four basketball shoes they would most prefer to purchase: the Adidas Initiation, Nike Air Force 1, Puma All-Pro NITRO, and Li-Ning Gamma. These brands were selected based on their market recognition, with Nike, Adidas, and Puma ranking among the top three most recognised brands among survey participants in prior research, and Li-Ning ranking outside this group (Shi et al., 2024). All four major-brand shoes lack a herringbone tread pattern, which the Li-Ning Gamma possesses. Shoes were depicted in a white colorway at similar angles and without athlete endorsement associations to minimise confounding biases. Tread pattern designations were listed alongside each shoe image.

In the second phase, participants were verbally informed about the performance-enhancing properties of herringbone tread patterns before completing the same survey. Responses from both phases were logged privately in Google Sheets accessible only to the researcher. Statistical analysis included percent change calculations and a One-Tailed Two-Proportion Z-Test to assess the significance of shifts in brand preference between phases.

Results

Forty participants were surveyed across two phases, with twenty participants in each phase. Surveys were conducted between December 23, 2025, and April 6, 2026, at the Multi Sports Kingdom of Manalapan and the Multi Sports Kingdom of Marlboro. Participants were teenage males between the ages of thirteen and eighteen.

Shoe Model	Number of Votes	Percentage of Total Votes
Adidas Initiation	8 votes	40.0%
Nike Air Force 1	4 votes	20.0%
Puma All-Pro NITRO	4 votes	20.0%
Li-Ning Gamma	4 votes	20.0%
Total	20 votes	100%

Table 1: Phase One of Surveying — Uninformed Participants. This table depicts the number of participants who preferred each shoe and the corresponding percentage of total phase one votes.

As shown in Table 1, the Adidas Initiation was the most popular shoe in phase one, garnering eight votes and representing 40% of phase one participants. The Nike Air Force 1, Puma All-Pro NITRO, and Li-Ning Gamma each received four votes, representing 20% of the phase one total each. This data established that uninformed participants most strongly favored the Adidas Initiation, with equal preference distributed among the remaining three brands.

Shoe Model	Number of Votes	Percentage of Total Votes
Adidas Initiation	6 votes	30.0%
Nike Air Force 1	4 votes	20.0%
Puma All-Pro NITRO	0 votes	0.0%
Li-Ning Gamma	10 votes	50.0%

Total	20 votes	100%
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Table 2: Phase Two of Surveying — Informed Participants. This table depicts the number of participants who preferred each shoe and the corresponding percentage of total phase two votes.

Table 2 depicts a substantially different distribution of preferences. The Li-Ning Gamma received ten votes in phase two, representing 50% of informed participants and an increase of six votes from phase one. The Adidas Initiation received six votes (30%), the Nike Air Force 1 retained four votes (20%), and the Puma All-Pro NITRO received zero votes. This shift indicates a meaningful reallocation of brand preference following the informational intervention.

Brand	Phase One Votes	Phase Two Votes	Percent Change
Adidas Initiation	8	6	-25%
Nike Air Force 1	4	4	0%
Puma All-Pro NITRO	4	0	-100%
Li-Ning Gamma	4	10	+150%

Table 3: Percent Change of Votes Between Phase One and Phase Two of Surveying.

Discussion

Data Analysis

Percent change was calculated for each brand using the formula: $\text{Percent Change} = ((\text{New Value} - \text{Old Value}) / \text{Old Value}) \times 100$, as derived from Tu (2016). As shown in Table 3, the Li-Ning Gamma recorded a 150% increase in votes, the only shoe to achieve a positive percent change. The Adidas Initiation declined by 25%, the Puma All-Pro NITRO by 100%, and the Nike Air Force 1 remained unchanged at 0%. These results align with the hypothesis that informing participants about performance-enhancing tread patterns would decrease preference for major brands and increase preference for the better-performing but lesser-known brand.

To confirm the statistical significance of the shift in Li-Ning Gamma votes, a One-Tailed Two-Proportion Z-Test was employed, following methods validated by Yi and associates (2025). The pooled proportion was calculated as $p = (X1 + X2) / (N1 + N2)$, yielding a value of 0.35. The standard error was calculated as $SE = \sqrt{p(1-p)(1/N1 + 1/N2)}$, producing a value of 0.218. The resulting z-value of 1.72 exceeded the critical value of 1.645, confirming that the increase in votes for the Li-Ning Gamma was statistically significant and not attributable to chance.

The Nike Air Force 1's stability across both phases presents an exception to the hypothesised pattern. Retaining exactly four votes in both survey rounds, the Nike Air Force 1 did not follow the anticipated decline in preference for major brands. This may suggest that certain brands possess deeper brand loyalty that is more resistant to informational intervention than others. Additionally, the relatively small sample size of forty total participants limits the generalisability of these findings, as even minor variation in responses can disproportionately influence percentage-based statistics. Overall, however, the data present a consistent trend: as participants became informed about performance-enhancing attributes of basketball shoes, they gravitated away from larger but lower-performing brands and toward a smaller but better-performing alternative.

Conclusion

Prior to conducting the two phases of surveying, the hypothesis predicted that informed participants would exhibit a greater preference for the Li-Ning Gamma, the basketball shoe featuring the herringbone tread pattern. Analysis of survey response frequencies confirmed this prediction: the Li-Ning Gamma experienced the highest influx of voters in phase two, while the Adidas Initiation and Puma All-Pro NITRO experienced significant declines. These findings align with those of Li and associates (2021), whose research indicated that more informed consumers often exhibit altered brand bias compared to uninformed populations. The Nike Air Force 1 presented an exception, retaining identical voter counts across both phases, suggesting that brand loyalty for certain major brands may be more durable than anticipated.

Fulfillment of the Gap

This study addresses two intersecting gaps in the scholarly literature. First, while considerable research establishes that tread pattern significantly enhances basketball shoe performance, little had been known about whether consumers are aware of these benefits or actively consider them when making purchasing decisions. Second, while existing literature documents how teenagers are more susceptible to brand preference formation, the role of informed decision-making as a mediating variable had not been examined in this demographic. This study provides empirical evidence on both dimensions, contributing to a more complete understanding of adolescent consumer behavior in athletic footwear markets.

Implications

Despite being based on a relatively small and geographically specific sample, these findings carry practical relevance for local retailers and athletic marketers. As the data indicate that teenage

male basketball players are receptive to performance information and alter brand preferences accordingly, retailers could incorporate informational signage or staff training that highlights the performance-enhancing attributes of lesser-known brands. Such tactics may assist in generating revenue and expanding consumer awareness beyond established major brands. At the research level, these findings contribute a perspective on informed decision-making as a meaningful variable in brand preference studies, potentially informing future consumer behavior research across other product categories and adolescent demographics.

Limitations and Future Directions

The study's geographic restriction to Central New Jersey basketball facilities limits the external validity of findings, as exposure to brands and responses to informational interventions may differ substantially across regions and socioeconomic contexts. The participant pool, drawn from club basketball teams, also implies a certain threshold of socioeconomic status that may not be representative of the broader teenage male athlete population. Future research should expand to public recreation centers and open courts to access more economically diverse samples. Additionally, broadening the number of brands presented, the range of performance attributes discussed, and the geographic scope of the study would strengthen the generalisability and depth of findings. Examining how shoes possessing multiple performance-enhancing attributes influence preference shifts could also yield valuable insights.

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