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## How do runners select their shoes? An in-store experience

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### ABSTRACT

We aimed to identify factors that influence running shoe selection and how salespeople and runners experience the in-store selection process. In a cross-sectional design, we surveyed 101 runners (buyers and non-buyers) and 38 salespeople in specialty running stores. Surveys contained questions about demographics, factors influencing shoe choice, sources of footwear advice/education, conscious behaviour, and perceived influence of salespeople on selection. There were no significant differences between buyers and non-buyers regarding how much runners thought about their purchases (i.e., level of consciousness). Salespeople were significantly younger than runners and believed a greater number of factors and sources of advice influenced shoe selection. Runners most frequently identified fit, comfort, and gait analysis or injury prevention as most influential in selecting shoes, in that order. Salespeople believed comfort was the most important for runners. Buyers and non-buyers prioritised advice on running shoes from salespeople, friends, and family, while salespeople primarily got their information from peers. Buyers and non-buyers visiting speciality running stores largely reflect the same population. Salespeople advising runners significantly differed from their target clientele in several regards and overestimated their influence on runners' selection. We caution runners to carefully consider the advice from salespeople as many employees make recommendations that are not evidence-based and may have limited experience.

### ARTICLE HISTORY

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### KEYWORDS

Advice; conscious; gait  
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shoe

### Introduction


Many factors influence running shoe selection, including subjective perceptions of comfort (Dhillon et al., 2020; Kong & Bagdon, 2010; Walton & French, 2016) and fit (Kong et al., 2015; Westerman et al., 2007; Willems et al., 2019). Shoe-specific characteristics and market features such as cushioning (Kong & Bagdon, 2010; Kong et al., 2015; Westerman et al., 2007), price, and colour (Dhillon et al., 2020; Westerman et al., 2007; Willems et al., 2019) also contribute to shoe choice (Fife et al., 2023). Although certain of these factors are relatively independent from each other, some of them are intrinsically linked like comfort and cushioning, which confounds their relative importance in footwear selection (Fife et al., 2023).

The process of selecting new shoes may also require runners to engage with marketing materials, research studies, specialty running websites, and other information sources. This undertaking is relatively frequent for runners as manufacturers recommend replacing running shoes every 300-500 miles (Brooks, 2020). Beyond shoe replacement, runners may purchase additional shoes for specialised training, racing (Hébert-Losier et al., 2020), or to use in rotation with other pairs (Malisoux et al., 2015). Seeking advice from retailers, specialised websites, friends, and

healthcare professionals is common practice (Dhillon et al., 2020; Ramsey et al., 2022) among runners and can affect their decision-making processes.

In the current footwear retail environment, runners have access to an immense amount of information in-store and online. There is hence an opportunity for salespeople and runners to have more knowledge on footwear. However, there is also an increased risk of misinformation and difficulty in interpreting or applying this information. Extensive choices in the marketplace may lead to decreased satisfaction and regret in product selection (Iyengar & Lepper, 2000). Shoe recommendation practices may be improved by identifying whether runners consciously think about their shoes during selection and purchase. Unconscious thought theory illustrates the differences in choice quality and satisfaction based on thought patterns (Dijksterhuis & Van Olden, 2006). Product satisfaction tends to be greater when individuals make conscious decisions about simple products and unconscious ones about complex products (Dijksterhuis et al., 2006). The running shoes in the present study should be considered complex as runners selecting specialty footwear are influenced by many factors (Fife et al., 2023) and seek advice to guide their choices from running stores (Dhillon et al., 2020). As such, unconscious thought theory would suggest that runners classified as unconscious during shoe selection may make better

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choices or be more satisfied. Determining the conscious behaviour during running shoe selection may help improve recommendation practices and runner satisfaction.

Previous studies have exclusively examined running shoe selection based on recall (Ramsey et al., 2022; Willems et al., 2019) or hypothetical experiments without the act of purchasing shoes (Westerman et al., 2007). There is a lack of studies performed in-store that examine shoe selection in an ecological setting. Salespeople play a central role in footwear selection and are the intermediary between manufacturers and runners in-store. Understanding how both salespeople and runners experience the shoe selection process may allow runners to better judge their trust in the individuals helping them (Ramsey et al., 2022; Walton & French, 2016). Moreover, the absence of in-store studies prevents runners and salespeople from fully understanding the complex system that underpins the shoe selection process. The primary aim of the study was to identify factors that influence running shoe selection in-store. The secondary aim was to identify any differences during the shoe selection process between buyers, non-buyers, and salespeople.

## Materials and methods

### Sample size

Three paper-based surveys of approximately 5-min duration were used to collect data from runners in the greater Seattle area (WA, USA); a 23-question survey for runners that bought shoes (buyers); a 22-question survey for runners that did not buy shoes (non-buyers); and a 15-question survey for salespeople. The sample size was determined by estimating the running population in Seattle based on national average running participation (15%) (Galic, 2021). When considering the metro area population of 3.4 million, which leads to an estimated 510,000 runners, a sample size of 97 participants was sufficient to achieve 95% confidence level with a 10% margin of error (Hassouna, 2023). A minimum convenience sample of two salespeople from each of the eight participating stores was sought, although any salesperson working was invited to participate.

### Participants

Eligible runners were aged 18 years or older, running at least once per week for a minimum of one month, visiting a running-specialty store seeking shoes for road running. Runners seeking shoes for trail (Gibson, 2012) or track (Greensword et al., 2012) running were excluded due to potential differences in footwear priorities. All salespeople working in the involved specialty stores were eligible to participate as reflective of the experience of the runners participating in our study. Eligible participants were given an information sheet and signed a written informed consent document. The Human Research Ethics Committee granted ethical approval prior to recruitment.

### Study design

In a cross-sectional design, we surveyed participants between October 27th, 2021, and January 1st, 2022, at eight specialty running stores in the greater Seattle area, WA,

USA. Surveys were primarily conducted on Saturdays and Sundays to align with the busiest store days. The primary investigator greeted all runners who entered the store and invited them to participate in a short survey to limit selection bias, irrespective of whether they purchased shoes or not. Salespeople were also asked to invite runners to complete the survey after their shoe selection process was complete. All salespeople working on the data collection days were invited to participate. Buyers, non-buyers, and salespeople completed similar surveys. Salespeople surveys were not tied to participating runners. Although the surveys designed for runners and salespeople were similar, they also contained questions that were specific to their respective groups. Key aspects of the surveys are presented in the following paragraphs, with the complete surveys provided as [supplementary material](#) (Supplement 1).

The research team developed the questions to surveys based on previous studies (Dhillon et al., 2020; Westerman et al., 2007; Willems et al., 2019), which were tested by runners and iterated based on their feedback. The surveys contained questions used to collect participant characteristics, including demographics, training volume, running history, and race participation. Runners were also asked if they had experienced an injury in the last six months according to the following definition: 'Running related (training or competition) musculoskeletal pain in the lower limbs that causes a restriction on or stoppage of running (distance, speed, duration, or training) for at least 7 days or 3 consecutive scheduled training sessions, or that requires the runner to consult a physician or other health professional' (Yamato et al., 2015). Runners identified factors that influence their shoe choice from a comprehensive list and ranked the top three in order of importance. Participants also identified the sources of advice and education about running shoes and ranked them according to their importance.

Runners answered where they typically shopped for new running shoes and why they visited a specialty running store that day. The survey also contained questions relating to runner's conscious behaviour during the shoe selection process (Dijksterhuis et al., 2006). Notably, runners completed a 100 mm visual analogue scale (VAS) answering: 'How much did you think about making your purchase?', with 0 mm being 'not at all' and 100 mm being 'very much'. In addition, non-buyers were asked why they did not purchase shoes in a multiple-choice selection.

Given that recommendations of salespeople considerably influence running shoe selection (Dhillon et al., 2020), runners rated if salespeople influence their shoe selection on a 100 mm visual analogue scale. The anchor points were: 0 mm 'No, they did not change how I selected my running shoes', 50 mm 'Neutral/Uncertain', and 100 mm 'Yes, definitely'. Salespeople answered a similar question that assessed how much they believed they influenced runners' shoe selection in general.

### Data analysis

Survey answers were entered into Qualtrics<sup>SM</sup> (SAP America) and then exported for management in Microsoft<sup>®</sup> Excel<sup>®</sup> (V 2302 Build 16.0.16130.20298). Data were grouped into buyers, non-buyers, and salespeople for comparison.

The median value from the VAS scores on how much runners thought about making their purchase was used to categorise runners as conscious ( $\geq$  median) or unconscious ( $<$  median) buyers, following the approach underpinning the unconscious thought theory framework (Dijksterhuis et al., 2006). In presence of missing data to select questions, all remaining available data were analysed (i.e., pairwise deletion). Five participants who agreed to the study did not complete the survey, and their data were removed.

Means with standard deviations and counts with percent values were used to describe the data. The data were analysed using IBM SPSS Statistics (version 29.0.0.0 (241)) predictive analytics software. The Shapiro-Wilk test identified that the data were not normally distributed between groups (buyers, non-buyers and salespeople). Therefore, non-parametric tests were used to compare continuous variables. Kruskal–Wallis H tests were applied when comparing variables between three groups, and Dunn's test was used for post-hoc comparisons. Mann-Whitney U tests applied when comparing two groups. Two-tailed Fisher Exact Probability tests ( $2 \times 2$  and  $2 \times 3$ ) were used to determine if there were significant associations between influencing factors, sources of advice, or other nominal data between groups. The  $\alpha$  level was set *a priori* to 0.05.

## Results

A total of 139 participants completed the surveys: 85 buyers, 16 non-buyers, and 38 salespeople. Participant characteristics are reported in Table 1 and Figure 1. Buyers and non-buyers were similar in terms of age, running experience, weekly

training patterns, and competitive race participation. Most buyers and non-buyers considered running as their primary sport, and 22.4% of buyers and 25% of non-buyers reported incurring a running-related injury within the last six months. Salespeople were on average 11 years younger ( $p < 0.001$ ) and raced competitively more often than runners ( $p \leq 0.035$ ). Nearly all salespeople also considered themselves runners (94.7%).

**Conscious behaviour and sales influence:** There were no significant differences between buyers and non-buyers regarding how much runners thought about their purchases, familiarity with the shoes beforehand, or the price of shoes purchased or considered for purchase (Table 2). There were statistically significant differences between salespeople and buyers when comparing the influence of the salespeople on runners' shoe selection (Dunn's Test,  $p = 0.029$ ). Salespeople believed they had a greater influence on runners' selection (mean: 80.9 mm) than buyers (67.7 mm) and non-buyers (62.6 mm).

**Factors that influence shoe selection:** On average, salespeople selected 12 factors that influence shoe choice, compared with only five factors for buyers and non-buyers (Kruskal–Wallis,  $p < 0.001$ ) Table 3). There was a significant difference between groups in terms of which factor influenced their shoe selection the most (Fisher Exact,  $p = 0.043$ ). Both buyers (36.5%) and non-buyers (43.8%) most frequently identified fit as the most important factor, while salespeople indicated that runners valued comfort most (52.6%) (Figure 2). Following fit as the most frequently selected influential factor, comfort influenced both buyers (29.4%) and non-buyers (31.3%). Gait analysis was also

**Table 1.** Summary of participant characteristics and running experience reported as mean (SD).

Question	Buyers	Non-buyers	Salespeople	P value
Participant characteristics	Sample: $N = 85$ (43 Female, 42 Male) Age: 38.6 (12.3) y <sup>a</sup>	Sample: $N = 16$ (4 Female, 11 Male, 1 No Answer) Age: 38.3 (12.1) y <sup>b</sup>	Sample: $N = 38$ (11 Female, 27 Male) Age: 27.2 (6.9) y <sup>a,b</sup>	<b>Kruskal–Wallis H</b> Age between groups: $< 0.001$ <b>Dunn's Test</b> Buyers vs. Non-Buyers: = 0.962 Buyers vs. Salespeople: $< 0.001$ Non-Buyers vs. Salespeople: = 0.001
Running history	Experience: 11.2 (11.7) y  Weekly sessions: 3.3 (1.5) Weekly mileage: 16.9 (13.5)  Race competitively: 16.5% <sup>a</sup> Recently injured: 22.4%	Experience: 13.6 (10.5) y  Weekly sessions: 3.8 (1.4) Weekly mileage: 18.4 (11.1)  Race competitively: 25% <sup>b</sup> Recently injured: 25%	Experience selling running shoe: 4.5 (6.5) y Range: 0.1 – 32.9y  Weekly sessions: - Weekly mileage: -  Race competitively: 60.5% <sup>a,b</sup> Recently injured: -	<b>Mann-Whitney U 95% CI</b> Years running regularly Buyers vs. Non-Buyers: = 0.146 Buyers vs. Salespeople: - Non-Buyers vs. Salespeople: - <b>Mann-Whitney U 95% CI</b> Average weekly sessions Buyers vs. Non-Buyers: = 0.138 Buyers vs. Salespeople: - Non-Buyers vs. Salespeople: - <b>Average weekly miles</b> Buyers vs. Non-Buyers: = 0.374 Buyers vs. Salespeople: - Non-Buyers vs. Salespeople: <b>Fisher's Exact Probability Test</b> Competitive racing frequency Between groups: $< 0.001$ Buyers vs. Non-Buyers: $< 0.477$ Buyers vs. Salespeople: $< 0.001$ Non-Buyers vs. Salespeople: $< 0.001$ <b>Recently injured</b> Buyers vs. Non-Buyers: = 1 Buyers vs. Salespeople: - Non-Buyers vs. Salespeople: -

Note. Recently injured based on in the last 6 months and following definition: running related (training or competition) musculoskeletal pain in the lower limbs that causes a restriction on or stoppage of running (distance, speed, duration, or training) for at least 7 days or 3 consecutive scheduled training sessions, or that requires the runner to consult a physician or other health professional. <sup>a</sup>Significant difference during post-hoc testing: buyers and salespeople. <sup>b</sup>Significant difference during post-hoc testing: non-buyers and salespeople.

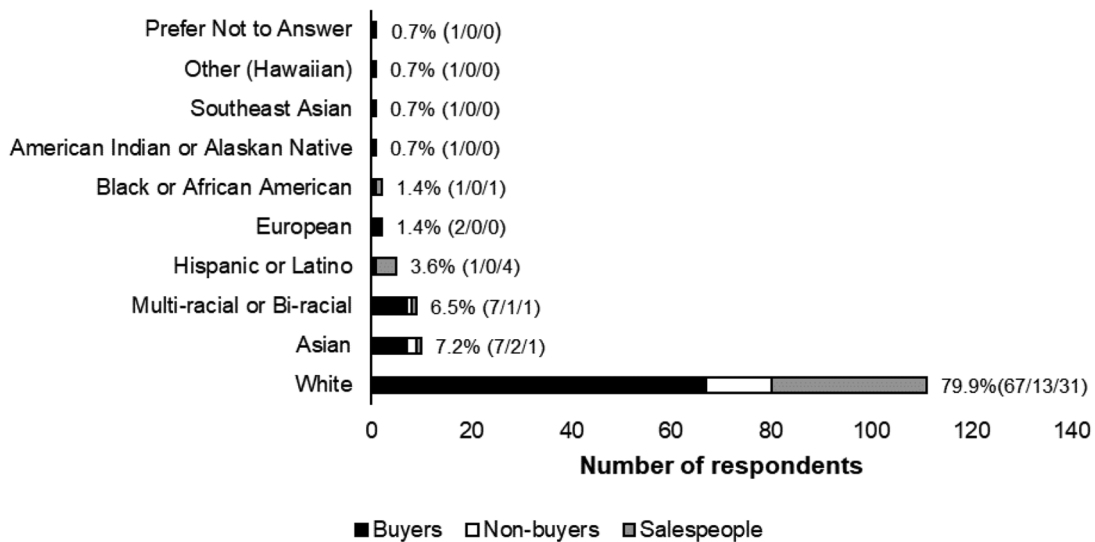


Figure 1. Ethnicity of participants by group. Runners were able to select multiple descriptions.

Table 2. Summary of conscious behaviour during running shoe selection reported as mean (SD).

Question	Buyers	Non-buyers	Salespeople	p Value
How expensive was it?	145.5 (33.5) USD (1 no answer)	127.5 (31.4) USD (4 no answer)	-	<b>Mann-Whitney U</b> Buyers vs. Non-Buyers: =0.229
Did you know the product before you went on the shopping trip?	56.5%	37.5%	-	<b>Two-tailed Fisher's Exact</b> Buyers vs. Non-Buyers: =0.271
How much did you think about making your purchase?	54.2 (27.0) mm	57.9 (24.2) mm	-	<b>Mann-Whitney U</b> Buyers vs. Non-Buyers: =0.761
How much did you think about the product between seeing it for the first time and buying it?	47.0 (26.0) mm	-	-	-
Did the sales associate influence your shoe selection?	67.7 (28.4) mm <sup>a</sup>	62.6 (18.2) mm <sup>b</sup>	80.9 (11.8) mm <sup>ab</sup>	<b>Kruskal-Wallis H</b> Between groups: <0.012 <b>Dunn's Test</b> Buyers vs. Non-Buyers: =0.136 Buyers vs. Salespeople: =0.029 Non-Buyers vs. Salespeople: =0.005
Why did you not buy shoes today?	-	Just browsing: 56.3% Other <sup>c</sup> : 43.8% Wrong size: 12.5%	-	-

Note. Price was self-reported and not checked for accuracy. <sup>a</sup>Significant difference during post-hoc tests: buyers and salespeople. <sup>b</sup>Significant differences during post-hoc tests: non-buyers and salespeople. <sup>c</sup>Other included recently purchased and no need (12.5% each), no money, wrong colour, no right shoe (6.3% each).

Table 3. Summary of factors that influence running shoe selection reported as mean (SD).

Question	Buyers	Non-buyers	Salespeople	p Value
Number of influencing factors	Average: 5 (2) <sup>a</sup>	Average: 5 (1) <sup>b</sup>	Average: 12 (4) <sup>ab</sup>	<b>Kruskal-Wallis H</b> Between groups: <0.001 <b>Dunn's Test</b> Buyers vs. Non-Buyers: =0.908 Buyers vs. Salespeople: <0.001 Non-Buyers vs. Salespeople: <0.001
Most influential factor	Fit: 36.5% <sup>a</sup> Comfort: 29.4% <sup>a</sup> Based on gait analysis: 8.2%	Fit: 43.8% <sup>b</sup> Comfort: 31.3% Tie among several factors <sup>c</sup> : 6.3% each	Comfort: 52.6% <sup>a</sup> Based on gait analysis: 10.5% Fit: 7.9% <sup>ab</sup>	<b>Two-tailed Fisher's Exact</b> Buyers vs. Non-Buyers vs. Salespeople Comfort: 0.043 Fit: 0.002 Gait: -

Note. <sup>a</sup>Tie between injury prevention, performance, same model as normal, and peer-recommendation. <sup>a</sup>Significant differences during post-hoc tests: buyers and salespeople. <sup>b</sup>Significant differences during post-hoc tests: non-buyers and salespeople.

identified as an important factor by both buyers (8.2%) and salespeople (10.5%).

**Sources of advice and information on running shoes:** On average, salespeople selected six sources, whereas buyers and non-buyers selected three (<0.001)

(Table 4). Each group identified salespeople as their number one source of advice and information on shoes: buyers (45.9%), non-buyers (31.3%), and salespeople (44.7%) (Figure 2). Both buyers (9.4%) and non-buyers (25%) identified friends as a preferred source of advice,



**Figure 2.** (A) Main criteria that influenced shoe selection by group and (B) main sources of footwear recommendations ( $n=139$ ). Note that the graph represents the primary choice of individuals within each group rather than the total amount of times each factor was selected. The numbers at the end of each bar represent the number of buyers, non-buyers, and salespeople, respectively.

**Table 4.** Summary of sources of advice.

Question	Buyers	Non-buyers	Salespeople	<i>p</i> Value
Number of advice sources	Average: 2.9 (1.2) <sup>a</sup>	Average: 3.1 (1.2) <sup>b</sup>	Average: 6.2 (2.5) <sup>a,b</sup>	<b>Kruskal–Wallis H</b> Between groups: <0.001 <b>Dunn's Test</b> Buyers vs. Non-Buyers: =0.698 Buyers vs. Salespeople: <0.001 Non-Buyers vs. Salespeople: <0.001
Most influential advise source	Salespeople (45.9%) Family (10.6%) Friends (8.4%)	Salespeople (31.3%) Friends (25%) <sup>b</sup> Family (12.5%)	Salespeople (44.7%) Other (e.g. personal experience, store training) (13.2%) Tie Manufacturer/Sales Representative (10.5%)	<b>Two-tailed Fisher's Exact</b> Buyers vs. Non-Buyers vs. Salespeople Salespeople: =0.231 Friends: =0.008 Family: =0.060

<sup>a</sup>Significant differences during post-hoc tests: buyers and salespeople. <sup>b</sup>Significant differences during post-hoc tests: non-buyers and salespeople.

whereas no salesperson did (Fisher Exact,  $p=0.008$ ). After colleagues, salespeople got their advice from other sources (e.g. site-specific work training or online training). The third most selected source of advice for buyers (10.6%) and non-buyers (12.5%) was family, whereas it was manufacturers (10.5%) and sales representatives (10.5%) for salespeople.

**Specialty running stores and incentives:** Runners typically purchased their shoes at specialty running stores (buyers = 78.8% and non-buyers = 62.5%, Fisher Exact,  $p=0.366$ ). Other purchase locations included: manufacturer websites, multi-sport stores, and specialty online stores (Figure 3). Runners reported employee expertise as the main reason for visiting specialty running stores (buyers = 75.3% and non-buyers 56.3%, Fisher Exact,  $p=1.000$ ). Other common reasons for visiting speciality running stores were: trying on shoes, supporting the local running community, and range of selection (Figure 3). Most salespeople (81.6%) said that financial incentives had no influence on their shoe recommendations, whereas 10.5% were unsure, and 7.9% answered that incentives did make a difference.

**Reasons for not buying shoes:** Non-buyers selected just browsing (56.3%), unavailability of size (12.5%), or other (43.8%, e.g. wrong colour, wrong fit, or recently purchased) as reasons for not purchasing shoes. Over half of salespeople believed runners did not buy shoes

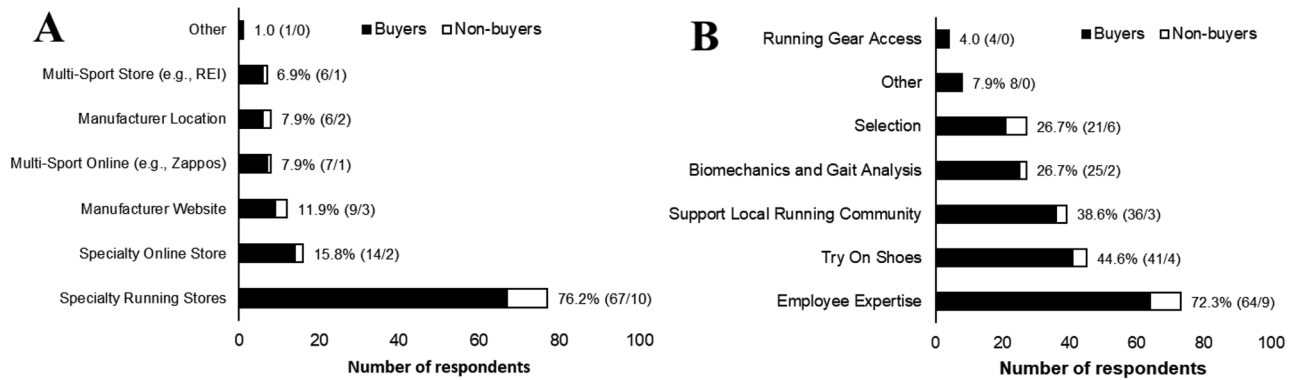
due to buying online instead (57.9%), price (50%), or colour (50%).

## Discussion

### In-store shoe selection and advice

Although the present study supports that several factors influence shoe selection, it identifies fit and comfort as most important when runners select shoes instore. Dhillon et al. (2020) identified that runners prioritise comfort, performance, and injury prevention when selecting shoes from online survey responses. Similar factors also surfaced in interview data from qualitative research (Ramsey et al., 2022). In contrast to online recall surveys and interviews, runners in our study had a tangible experience in-store and a focus on immediate considerations (i.e., fit and comfort) over more abstract ones (e.g. injury prevention and performance).

Runners reported fit as the top factor influencing their shoe choice, which aligns with previous findings (Schubert et al., 2011). Fit interacts with several other factors (e.g. cushioning and material properties) and potentially protects against running-related injury (Willems et al., 2019). Fit, however, is subjective and lacks consensus definition in footwear research. Furthermore, fit is not regularly measured or examined effectively in the existing tools that assess running shoes (Fife et al., 2023; Ramsey et al., 2023; Ramsey et al., 2019). Although both fit and comfort are



**Figure 3.** (A) Where runners typically buy their shoes (B) Why runners chose to shop at a specialty running store ( $n=101$ ). Multiple selections were allowed for each participant.

identified as important in shoe selection (Fife et al., 2023; Schubert et al., 2011), comfort is most often at the forefront of literature (Nigg et al., 2015) with little attention given to fit.

Selecting shoes based on comfort may be inherently flawed given that the description of shoes can influence comfort (Chan et al., 2020). Comfort appears linked to cushioning (Kong & Bagdon, 2010) and fit (Hennig, 2011), which further complicates understanding the shoe selection processed based on comfort (Fife et al., 2023). Running speed appears to influence subjective shoe comfort (Hébert-Losier et al., 2024), adding another potential confounding factor to runners choosing shoes based on comfort. Salespeople making recommendations to runners in-store may indirectly influence subjective factors, such as perceptions of comfort and fit, as they guide runners through the selection process. While there is little scientific evidence to support shoe selection based on comfort, gait analysis, and individual biomechanics or anatomy, there is no alternative consensus best practice. Agresta et al. (2022) suggest that individual characteristics of runners, like their task demands and goals, should be considered when recommending footwear. Rigorous scientific testing is still needed to determine whether this approach to footwear prescription would mitigate injury risk and enhance satisfaction.

There appears to be disagreement between runners regarding the value of in-store gait analysis. Some runners trust employees and stores that offer gait analysis more than other stores (Walton & French, 2016), while others distrust in-store gait analysis and regard it as a sales tactic without scientific validation (Ramsey et al., 2022). This dichotomy in perspective is somewhat reflected in our data wherein 37% of runners reported that gait analysis influenced their shoe selection. In contrast, 74% of salespeople believed gait analysis influenced runners' selection. Salespeople overrated the importance of gait analysis compared to runners, possibly because it is perceived as a unique in-store offering.

Runners seek advice from several sources when selecting running shoes. Both buyers and non-buyers seek advice from salespeople, family, and friends. Our findings support recent research identifying salespeople as key advice sources (Nguyen et al., 2022). The quality of the information from each of these sources is unknown. Most buyers and non-buyers prioritise advice from salespeople,

while salespeople primarily receive their advice from other salespeople, in-house training, personal experience, and sales representatives. The word-of-mouth approach to shoe recommendation is susceptible to misinformation. Running as a sport can be considered a complex system where multiple variables contribute to an outcome (Hulme & Finch, 2015). Past research and widely accepted practices may be limited by the lens of monocausality (Hulme & Finch, 2015). Salespeople have beliefs that are not supported by scientific evidence (Woltho et al., 2020); a product of current systems. Even people often considered experts do not always agree on which shoe features are most important and how to implement recommendations (Honert et al., 2020). While runners have reported seeking advice from running websites, healthcare professionals, and scientific literature (Dhillon et al., 2020), it may be difficult for runners to easily obtain, interpret, and apply scientific information.

### *Differences between salespeople and runners*

Most runners that visited the participating specialty running stores did so specifically seeking employee expertise. Often, the salespeople recommended footwear based on some form of in-store gait analysis. Gibson (2012) was 'perturbed' by his experience at a specialty running store and disagreed with the footwear recommended based on the in-store gait analysis, resulting in him doubting the process and competency of the salesperson. Salespeople sometimes recommend shoe style changes to runners that are satisfied with their current shoes, when it may be unnecessary (Woltho et al., 2020). In our study, many runners participated in some form of gait analysis that included salespeople assessing walking, jogging, standing, squatting, and/or examining shoe wear patterns. Some salespeople used technology to assess foot pressure during walking and running, or foot shape and volume while standing. The practice of recommending shoes based on foot type and pronation control systems to reduce injury have been challenged for over a decade (Knapik et al., 2009; Malisoux & Theisen, 2020; Richards et al., 2009), but is still common practice and widely believed (Nguyen et al., 2022).

Runners tend to trust the footwear choices of other runners with similar or higher abilities (Ramsey et al.,

2022). The salespeople ran competitively more frequently than the runners in our study, which may increase the credibility of their recommendation to runners. The work experience of salespeople might also influence their credibility and confidence in their prescription practices. Most of the salespeople's expertise came from their colleagues, professional internal training, personal running experience, manufacturers, and sales representatives. The work experience of salespeople considerably varies (i.e., 5 weeks to 33 years in our study), and is generally relatively short (<5 years). The rotating salesforce may limit the evolution of in-store shoe prescription practices due to dearth of experienced salespeople.

Salespeople also perceived they influenced runners' choices to a greater extent than runners reported. Frameworks that describe the interaction between salespeople and their customers are useful in understanding aspects of the in-store experience. Value creation and interpersonal trust is based on shared abilities, integrity, benevolence, and similarity between runners and salespeople (Baumann & Le Meunier-FitzHugh, 2014). Walton and French (2016) found that runners trust retailers over healthcare professionals in certain situations, while some runners distrust in-store processes (Gibson, 2012; Ramsey et al., 2022). Salespeople are generally confident in their beliefs and have received extensive training from their employers and manufacturers (Wolthon et al., 2020), which may not be based on scientific evidence. Salespeople are usually runners, and may present a runner-centric focus during the sales process to best help the runner they are serving due to their moral identity to help others (Itani et al., 2022).

Breakdowns in trust due to differences in running experience, technical expertise, and motives can partially explain discrepancies between how influential the salesperson was on shoe selection in the present study. Salespeople were younger by almost a decade and raced more frequently than potential shoe purchasers, which may bias their recommendations towards their personal preferences. Runners may overreport their independence of shoe selection to combat their concession of authority during the in-store interaction. Salespeople that make successful recommendations (i.e., runners bought the recommended shoe) may develop confirmation bias over time that leads to their confidence in how much they influence running shoe selection. Runners and salespeople must communicate effectively to accurately identify footwear that are specific to runners' ability and intended use (Agresta et al., 2022).

### **Buyers and non-buyers are the same population**

All runners – regardless of buying shoes or not – identified fit and comfort to be of primary importance to their shoe selection. They both valued advice from salespeople, friends, and family, and exhibited similar levels of conscious thought. Runners are either buyers or non-buyers depending on the day, as some non-buyers stated that they had made a recent running shoe purchase and came to the store to browse without the intent to purchase. Beyond replacing worn shoes, runners may select and purchase more shoes to fill a specific training need (Agresta et al., 2022), meet a colour or style preference (Fife et al., 2023),

or to stockpile multiple pairs of a favourite model. Runners consider previous use when selecting shoes (Westerman et al., 2007), with some of our runners also choosing the same model as they normally wear.

### **Unconscious thought theory**

Based on the unconscious thought theory (Dijksterhuis & Nordgren, 2006), we hypothesised that buyers and non-buyers would exhibit different levels of thought when selecting new running shoes. We predicted that buyers would think more about their purchase than non-buyers prior to visiting the store. Contrary to our hypothesis, both buyers and non-buyers thought about their purchase to a similar extent and both groups knew the running shoes they were looking for before visiting the shoe store. This finding further supports that buyers and non-buyers reflect a similar population. Specialty stores in the present study offered a variety of models from multiple manufacturers. Choosing from a large selection is more frustrating than a more limited offering, and conscious deliberation can be more upsetting than spontaneous choice (Messner & Wänke, 2011). Unconscious thinkers also benefit from high-quality information (Dijksterhuis & Strick, 2016). Runners may visit stores to gather information, which may be used consciously or unconsciously to inform their running shoe choice.

Both groups thought about their purchase a similar amount, near the median split, which makes it difficult to confidently classify runners as conscious or unconscious buyers. Research in conscious purchasing behaviour demonstrates that people are more satisfied with their purchase if they think more about simple products and less about complex ones (Dijksterhuis & Nordgren, 2006). Previous research regarding consciousness categorised shoes as simple products as chosen by the general population and included casual and general athletic shoes (Dijksterhuis et al., 2006), rather than the sport-specific models in the present study chosen by runners. Future research is needed to validate the application of unconscious thought theory in runners selecting shoes by examining consciousness behaviour and its relationship to footwear satisfaction.

Whether running shoes are simple or complex may depend on the individual runner, as more experienced runners likely consider more technical aspects of shoes than less experienced runners. Many runners use multiple shoes in rotation (Malisoux et al., 2015). Experienced runners may choose specific shoes for speedwork on the track and another with higher cushioning and carbon inserts for distance racing (Kram, 2022). These considerations make the decision-making process more complex than novice runners seeking a daily training shoe. In this regard, we posit that choosing running shoes in a specialty store is a more complex experience for the modern-day runner. As unconscious shoppers benefit during complex choices (Dijksterhuis et al., 2006), it may be possible to induce a less conscious state to improve running shoe choice. Runners may be more satisfied by trusting their intuition rather than deliberating over minutiae.

## Limitations and future directions

One novel aspect of the present study is that runners came to specialty running shoe stores and interacted with running salespeople. Nonetheless, the selective sampling of runners visiting specialty running stores limits generalisation to runners from different geographical regions or shopping at different locations. Our results may not apply to other specialty stores, including those that do not offer similar sales strategies (e.g. gait analysis). However, we believe that collecting data from eight locations improved the generalisability of our findings. Data were collected during weekends and over a North American holiday season. As such, it is possible that the interactions between runners and salespeople differed from behaviours examined during other times of the week or year.

The research team did not standardise the in-store experience, and several factors could influence the process: footwear selection available, salesperson, and quality/quantity of gait or foot analysis. There is no way to know how salesperson knowledge and advice varied or influenced individual runner behaviour. Runners that participated in gait analysis may perceive it as influencing their selection more than runners that did not partake in these services. Runners entering a speciality shoe store are more likely to intend to purchase shoes, which creates a potential sampling bias. Furthermore, all participants volunteered to participate, which introduced a selection bias wherein we do not know how non-participants would respond to the survey.

Future research should manipulate factors that are known to influence shoe selection (e.g. comfort) and recommendations (i.e., based on gait analysis) to better understand their value in footwear prescription. Price and product availability influence footwear comfort (Chan et al., 2020), which may also be influenced by salespeople and in-store processes. A longitudinal investigation examining how conscious thought correlates to shoe selection and purchase satisfaction would help researchers better understand runner's behaviours.

## Conclusion

Runners selecting new road running shoes at specialty stores report fit, comfort, and gait analysis as priority factors influencing their decision. Runners seek advice primarily from salespeople in specialty stores, which may limit their exposure to evidence-based information. Buyers and non-buyers did not demonstrate significantly different levels of conscious thought or behaviours during shoe selection in-store and may represent a similar population in a geographical area. In contrast, salespeople and runners were significantly different in several ways. Salespeople believe that they have a greater influence on running shoe selection than runners report. Furthermore, salespeople primarily get their information from their peers, internal training, and brand representatives rather than scientific sources. We caution runners to carefully consider the advice from salespeople as many employees make recommendations that are not evidence-based and may have limited experience.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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