

The effects of brand equity on millennials' purchase decision for sports nutrition products in Ireland

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Abstract

Based on the theory of planned behaviour, this study investigated whether brand equity influences the purchase intention for sports nutrition products among millennials in Ireland and what factors influence their purchase decision. This research reports the results of a survey of 102 millennials. The results suggest that brand equity influences millennials' purchase intention and that it is also influenced by subjective norms and perceived behavioural control. Furthermore, the analysis shows a correlation between brand equity and its subdimensions (brand awareness/associations, perceived quality, brand loyalty) and purchase intention. This study contributes to the brand management literature in the sports nutrition industry and provides brand managers with various suggestions on how to build brand equity in their business practices.

Keywords: Brand equity, theory of planned behaviour, sports nutrition products, purchase intention, consumer behaviour, millennials, brand management

Introduction

Within only 83 years, the global sports nutrition industry has skyrocketed (Tricarico, 2021). In 2019 and 2020, the industry experienced a decline due to the pandemic. Nevertheless, a compound annual growth rate (CAGR) of 7% is forecast for Ireland, reaching €72 million by 2026 (Euromonitor International, 2021) and 12.50% globally by 2027 (Mordor Intelligence, 2021). Some contributing factors to the industry growth are: A greater demand for health-promoting products and consumers adopting more active lifestyles (Glanbia, 2021; Magill, 2022); the greater emphasis on preventative healthcare in Ireland, leading to strong demand for sports nutrition products, vitamins

and supplements (Euromonitor International, 2021); and the targeting of recreational users and women, signifying the transition from a niche to a mass market (Keogh, Li and Gao, 2019; Kades, 2022).

During the pandemic, fitness became a key element as consumers showed a greater interest in health and well-being (Euromonitor International, 2021b). Currently, the majority of Irish people try to stay active by exercising several times a week (Magill, 2022). Since restrictions on exercise have been relaxed, there is also a growing demand for sports nutrition products (The Market Research Society, 2021). Millennials born between 1981 and 1996 in particular (Beresford Research, 2022) want to exercise more and improve their diet (Deloitte, 2021). This generation takes a holistic view of health and considers exercise and nutrition very important to their overall health (Panner, 2019). They are seen as the fittest generation: 76% of millennials exercise at least once a week, and the average millennial spends \$56 a month on supplements (Billitz, 2022). A report by Innova Market Insights (2021) states that millennials are very adventurous when it comes to trying new flavours and are the most likely to add sports nutrition products to their typical shopping basket.

As competition increases and the number of new entrants rises, brands must discover a way to differentiate themselves. Therefore, brand equity is becoming increasingly important in the sports nutrition industry. The concept refers to a strong brand which uses its value to gain a competitive advantage, differentiate itself and drive brand success (Rossi, Borges and Bakpayev, 2015). However, understanding the customer perspective of a strong brand can be a complex process. For this reason, Keller (1993) and Aaker (1996) developed the Consumer-Based Brand Equity (CBBE) model, which captures the value of a brand from the customer's perspective.

CBBE can have a positive impact on a brand, for example by increasing consumer purchase intention (Buil, Martínez and de Chernatony, 2013; Azzari and Pelissari, 2020). However, it appears that the sports nutrition industry has received little attention from researchers, and only one study by Wesana *et al.* (2020) examined the value of sports nutrition brands in Belgium and consumer preference by profiling users and non-users of sports nutrition products. However, it did not investigate whether consumer purchase intention was influenced by brand equity, nor what factors influence consumer purchase intention for sports nutrition brands. The theory of planned behaviour can be applied to the study of intentions and behaviour, using its three dimensions: Attitudes, subjective norms and perceived behavioural control. The model has been used by researchers to study consumer purchase intention and behaviour for dietary supplements (Pawlak *et al.*, 2008; El Khoury *et al.*, 2021; Chen,

Chao and Chu, 2022). Nevertheless, it seems that it has not been associated with sports nutrition brand equity, nor has it been studied in the Irish market.

This study complemented the findings of Wesana *et al.* (2020) to shed more light on the importance of branding and, furthermore, the factors that influence consumer purchase intention in the sports nutrition industry. It was attempted to answer the following research questions:

1. Is millennials' purchase intention for sports nutrition products influenced by brand equity?
2. What is driving Irish millennials' purchase intention for sports nutrition products?

Research Model and hypothesis

The study model examines the factors that capture the value of a brand from the customer's perspective through the adoption of CBBE and TPB model.

The conceptual framework (Figure 1) was adopted from Abdullah *et al.* (2018), who appear to have been one of the first to link Aaker's (1996) brand equity model with Ajzen's (1991) TPB model to examine the impact of both models on consumers' willingness to pay premium prices. The conceptual framework was adapted for the purpose of this study by replacing the variable "willingness to pay premium prices" with "purchase intention". As suggested by scholars and conducted by Wesana *et al.* (2020), brand equity was assessed using three indirect measures: Brand awareness/associations, perceived quality and brand loyalty. In addition, overall brand equity was measured as an individual construct to assess the additional value of a brand due to its brand name and to better understand how the three sub-dimensions contribute to brand equity.

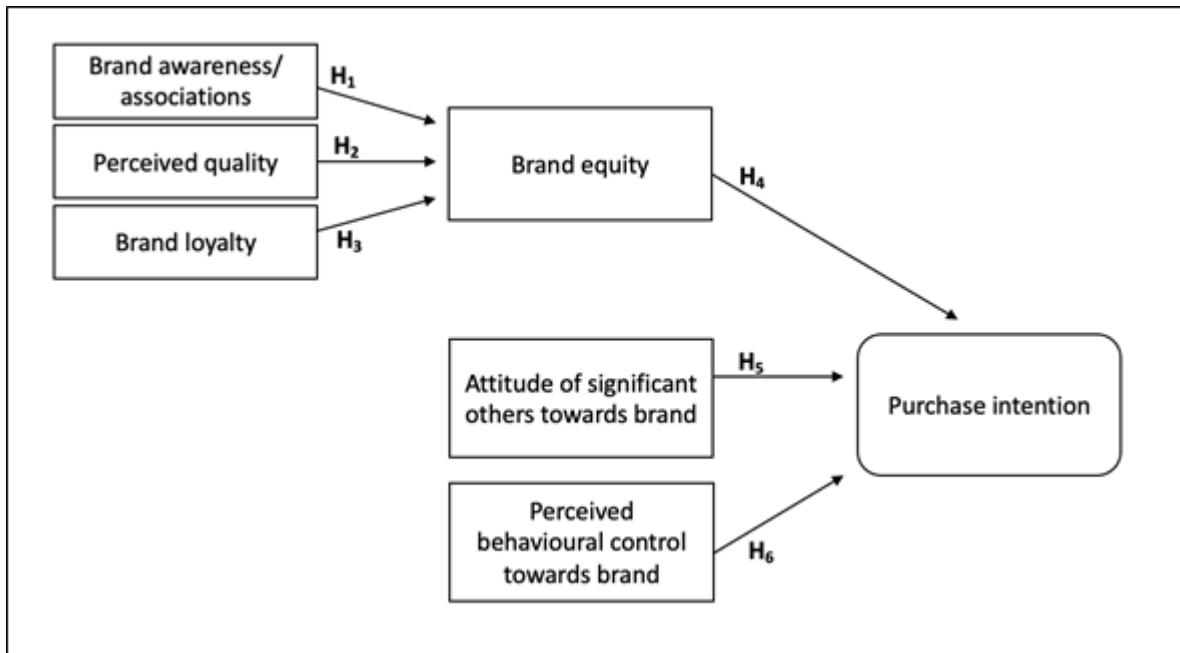


Figure 1: Conceptual Framework adapted from Aaker (1996) and Ajzen (1991)

CBBE

Keller (1993, p. 8) defines CBBE “as the differential effect of brand knowledge on consumer response to the marketing of the brand”. In other words, brand knowledge stored in a consumer’s memory might elicit a more favourable brand response when exposed to the same marketing efforts of a familiar versus unfamiliar brand. For example, a consumer who sees an advertisement for whey protein on social media might respond positively when they see that the advertisement is from the sports nutrition brand they know, whereas they might not respond to an unfamiliar brand’s advertisement. Therefore, consumer behaviour can be influenced by CBBE and benefit a brand. Keller identifies four sequential steps that are critical when building a strong brand: (1) creating a brand identity, (2) creating brand meaning through unique and favourable brand associations, (3) generating positive brand responses, and (4) building consumer-brand relationships that are characterised by loyalty (Keller, 2001).

In contrast, Aaker (1991, p. 15) defines brand equity as “a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm’s customers”. He identifies four dimensions that can assess brand equity from the customer perspective: awareness, associations, perceived quality, and loyalty. Furthermore, brand equity can be assessed from a company perspective by looking at market

behaviour (Aaker, 1996). Although the approach to assessing brand equity differs between the two scholars, the dimensions chosen are similar and have brand loyalty as the core and desired outcome. Nevertheless, research indicates that most scholars use Aaker's approach by assessing CBBE with three indirect measures: awareness/associations, perceived quality, and brand loyalty (Yoo, Donthu and Lee, 2000; Yoo and Donthu, 2001; Brunetti, Confente and Kaufmann, 2019; Wesana et al., 2020). This study adopts the CBBE scale proposed by Yoo, Donthu and Lee (2000) as it has been recommended and validated by Brunetti, Confente and Kaufmann (2019) and Wesana et al. (2020).

Brand awareness/associations

Brand awareness refers to “customers’ ability to recall and recognize a brand” (Keller, 2001, p. 8), while brand associations are “anything linked in memory to a brand” (Aaker, 1991, p. 15). The terms tend to be linked, as brand awareness reflects the level of brand knowledge that goes beyond mere brand name recognition and includes various brand associations stored in the consumer's memory (Çifci et al., 2016). For example, a consumer might recognise the logo of a sports nutrition brand or some product features that they have been exposed to before. In addition, various brand associations are linked together in a consumer's memory, which together create a brand image and make up the consumer's brand knowledge (Yoo, Donthu and Lee, 2000). Ideally, associations are formed that the consumer associates with a need to be satisfied or a product/service category (Keller, 2001). In such cases, brand recall can be greater when consumers want to satisfy a need and the brand might be in the top-of-mind. Therefore, brand awareness/associations are often considered a crucial precursor to perceived quality, as they influence its strength and emergence (Buil, Martínez and de Chernatony, 2013).

Yoo, Donthu and Lee (2000), Keller (2001), and Sasmita and Suki (2015) argue that brand awareness/associations positively influence brand equity whereas Wesana et al. (2020) discovered that this influence is insignificant. However, the researchers argue that perceived quality and brand loyalty offset the insignificant effect of brand awareness/association on brand equity. Therefore, further research should be conducted to investigate the impact of brand awareness/associations on brand equity. To investigate the findings of Wesana et al. (2020), this study hypothesised:

H1: Brand awareness/associations does not influence brand equity.

Perceived quality

Zeithaml (1988, p. 3) defines perceived quality as “the consumer's judgement about a product's overall excellence or superiority”. In this case, a consumer's subjective

judgement determines product quality rather than actual manufacturing quality. Therefore, consumers' feelings reflect their perceived quality of a particular brand (Aaker, 1991). Since consumers tend to transfer their perceived quality to products of the same brand, they prefer to buy brands they know (Azzari and Pelissari, 2020). Moreover, perceived quality tends to be higher when consumers perceive a brand as credible, which could influence their purchase intention. However, this relationship is moderated by pleasure-seeking behaviour (Saleem, Rahman and Omar, 2015).

Many scholars discovered that perceived quality positively influences brand equity (Yoo, Donthu and Lee, 2000; Buil, Martínez and de Chernatony, 2013; Wesana *et al.*, 2020). Therefore, a positive effect of perceived quality on brand equity was expected in this study:

H₂: Perceived quality positively influences brand equity.

Brand loyalty

Brand loyalty is at the core of brand equity, which refers to “the attachment that a customer has to a brand” (Aaker, 1991, p. 39). It reflects the relationship between the consumer and a brand and its strength (Keller, 2001). Loyal consumers are committed to a brand and prefer to buy its products. Consequently, switching to competitive brands is less likely (Yoo and Donthu, 2001; Wesana *et al.*, 2020).

To date, brand loyalty has been studied by many researchers in different industries, and many agree that brand loyalty is the strongest driver of brand equity (Aaker, 1996; Buil, Martínez and de Chernatony, 2013; Saleem, Rahman and Omar, 2015). However, it seems brand loyalty has not been studied much in the context of the sports nutrition industry. In support of previous findings, Wesana *et al.* (2020) argue that brand loyalty is the strongest driver of brand equity. Gabriels and Lambert (2013) found that consumers have a higher purchase intention for sports nutrition brands when the brand name is on the product label, suggesting that brand loyalty may influence consumer purchase intention. Nevertheless, research in that industry remains limited, but should be expanded given the potential benefits that brand loyalty could offer brands. Therefore, this study examined the relationship between brand loyalty and brand equity and its influence on purchase intention by hypothesising:

H₃: Brand loyalty positively influences brand equity.

Purchase intention

When consumers are loyal to a brand, their purchase intention for that brand is generally greater when they have to choose between it and an alternative (Yoo and

Donthu, 2001). Purchase intention refers to “consumers’ disposition towards buying a brand, or continuing its use” (Aydin and Ulengin, 2015, p. 111). Usually, it is not necessary to convince loyal consumers to buy that brand. Instead, loyal consumers tend to recommend that brand to others and persuade them to buy it by spreading positive word of mouth (WOM) (Wesana *et al.*, 2020). Since consumers freely promote the brand, brands do not have to pay, but gain organic brand awareness and potentially attract new customers. In addition, loyal consumers buy the brand repeatedly, seek out information about the brand themselves and engage with brand communities (Keller, 2001).

Many scholars argue that purchase intention is positively influenced by brand equity (Holehonnur *et al.*, 2009; Buil, Martínez and de Chernatony, 2013; Sasirekha and Sathish, 2017; Azzari and Pelissari, 2020). Due to brand knowledge and familiarity, consumers perceive less risks during their decision-making process. For example, if a consumer is familiar with the quality of a brand, these perceptions can be transferred to other products of the same brand, reducing the potential risk of a purchase (Azzari and Pelissari, 2020). Moreover, the time needed to make a purchase is reduced. Therefore, the hypothesis was made:

H₄: Brand equity positively influences purchases intention.

Theory of planned behaviour

The theory of planned behaviour model assumes that behavioural intentions are antecedents of consumers' actual behaviour, which depend on the information available and the consumer's evaluation of that information (Madden, Ellen and Ajzen, 1992; El Khoury *et al.*, 2021). Behavioural beliefs (attitude towards behaviour) and normative beliefs (subjective norms) influence intention. Moreover, perceived behavioural control, a control belief, either indirectly influences intentions or directly influences behaviour (Madden, Ellen and Ajzen, 1992).

One forms attitudes by believing that one’s behaviour will lead to a certain outcome, which can be evaluated as desirable or undesirable (i.e., favourably vs. unfavourably) (Ajzen, 1991; Ahmed *et al.*, 2020). For example, a consumer might believe that using whey protein for exercise will help build more muscle and therefore consider purchasing it. The more positively the feelings associated with performing the behaviour are valued, the greater the attitude towards performing the behaviour. Thus, the behavioural intention is greater.

Subjective norms reflect how consumers perceive the opinion of significant others, such as close friends, family, or colleagues, about a behaviour (Ajzen, 1991; Chen,

Chao and Chu, 2022). Therefore, one's own behaviour can be influenced by the social influence of others. For example, if a close friend regularly uses sports nutrition products to enhance their performance, the consumer may view the purchase behaviour positively and be more willing to perform the behaviour themselves (i.e., purchase intention).

Perceived behavioural control refers to a consumer's perceived difficulty in performing a particular behaviour. Perceived behavioural control can either directly predict behaviour or indirectly influence behaviour through intentions (El Khoury *et al.*, 2021). The greater the perceived behavioural control, the more likely the consumer is to perform a particular behaviour (Ajzen, 1991). For example, when consumers feel that the decision to purchase products from a particular sports nutrition brand rests solely with them, they have a stronger sense of perceived behavioural control.

El Khoury *et al.* (2021) discovered that users of dietary supplements have more positive attitudes, stronger intentions, and higher perceived behavioural control towards using such products. Furthermore, subjective norms play a critical role in the use of supplements. Nagar (2020) found that gym supplement users' attitude is strongly influenced by the benefits associated with consumption, that subjective norms influence attitude and purchase intentions, and that attitude significantly influences behavioural intentions. However, research on what drives consumer purchase intention for sports nutrition products, especially among Irish millennials, is still limited. Furthermore, it seems that no scholars have yet attempted to integrate the TPB with the CBBE model to better understand millennials purchase intent for sports nutrition products.

Attitudes and brand equity

Attitude has a big impact on a consumer's behavioural intention, especially when the behavioural outcome is desired (Abdullah *et al.*, 2018). Suppose a consumer has had a positive experience with a familiar sports nutrition brand. Previous brand experiences may influence whether a consumer includes that brand in their evoked set and intends to purchase it again (Keller, 1993). Therefore, it can be argued that the consumer has developed a positive attitude towards the brand, meaning that purchase intention is potentially greater, vice versa. Nonetheless, attitude was excluded from parametric testing in this study as the researcher used a rating scale to learn more about millennials' attitudes towards sports nutrition products and the main reasons for their purchase decision.

Subjective norms and brand equity

The views of important people about consumers' behavioural intentions are reflected by subjective norms (Abdullah *et al.*, 2018). How a significant other feels about the consumer's intention to purchase products from a particular sports nutrition brand could influence the consumer. For example, if a close friend only uses and endorses products from a particular sports nutrition brand, the consumer is more likely to try that brand as well and vice versa. So, the way someone else perceives the value of a brand could influence the consumer positively (in cases of positive brand equity) or negatively (in cases of negative brand equity). This study hypothesised:

H₅: The attitude of significant others towards the brand influences the consumer's purchase intention.

Perceived behavioural control and brand equity

Whether consumers believe they have enough resources and opportunities to perform a particular behaviour is reflected by their perceived behavioural control. If a consumer feels confident to perform a certain behaviour, their belief is stronger (Abdullah *et al.*, 2018). In terms of purchase intention, a consumer might perceive a high level of brand equity. However, if a consumer does not have enough money to afford a premium sports nutrition brand, they would be willing to spend the money but have a low ability to make the purchase. Consequently, their purchase intention might be low. Nevertheless, Yoo, Donthu and Lee (2000) argue that consumers are willing to pay higher prices for brands with high brand equity. Thus, if the consumer had enough money to afford the brand, they would feel a higher level of perceived behavioural control, which would imply a greater willingness to purchase the desired brand. A hypothesis was made:

H₆: Perceived behavioural control towards the brand influences the consumer's purchase intention.

Methods and procedures

Participants

The target population for the survey included individuals from the Millennial generation, i.e., individuals born between 1981 and 1996 (Beresford Research, 2022). Therefore, individuals between the ages of 26 and 41 were targeted. Millennials had to use sports nutrition products and live in Ireland, as the study focused on the Irish market.

There are currently approximately 1,056 million millennials living in Ireland (Euromonitor International, 2022). However, not every millennial is a user of sports nutrition products, so there was no exact number of the target population. Given the short 12-week period for this study, a total sample size of 100 respondents was considered acceptable. A response rate for surveys is between 50% to 60% (Story and Tait, 2019). Thus, the survey was shared with at least 200 millennials to achieve the desired sample size.

As no sampling frame could be created or accessed, non-probability sampling was used, meaning that individuals were selected based on the researcher's judgement or for convenience purposes. The probability of being selected was hence unknown. A mix of purposive and snowball sampling was used. Therefore, the researcher used her own judgment to first identify some individuals she knew from her network who met the sampling criteria. These individuals were encouraged to share the questionnaire with other members of the target population.

Materials

The outcome of this study was based on objective facts and not on the subjective reality perceived by one individual. Therefore, a positivist paradigm was adopted as that the relationship between variables was empirically tested (Kivunja and Kuyini, 2017). A survey explored the relationship between brand equity, purchase intention and their influencing factors. An online questionnaire (Appendix 4) was created in Google Forms to collect categorical and continuous data.

Section A contained three control checks to enhance the validity of the survey by ensuring that participants were millennials, lived in Ireland, and used sports nutrition products. Data were collected on a nominal and ordinal scales. Those who did not meet the sampling criteria were automatically excluded from the survey.

Section B measured the variables investigated in this study. Participants had to rate various statements on a 5-point Likert scale ranging from 'Strongly disagree' to 'Strongly agree'. Scale items for all constructs were adapted from different sources (Appendix 1). The scale collected interval data. Three to four items measured each construct to allow for a better assessment of reliability and construct validity (Kyriazos and Stalikas, 2018). The only exception were scale items A1 – A3 for attitude, as consumers had to rank the importance of three statements at the end of this section to determine which of the three statements was most important to them and to learn more about their attitudes towards sports nutrition brands.

Section C included two further demographic questions to identify participants' gender and their current employment status. Both items collected nominal data as participants had to select a category they identified with. The questions allowed the researcher to identify possible patterns. Both questions are considered rather sensitive questions and were consequently asked at the end of the survey to ensure that participants did not hesitate and possibly drop out of the survey at the beginning. The survey ended after this section.

Results

A total sample size of 110 respondents was obtained, Eight respondents did not meet the sampling criteria and were consequently excluded. Their responses were deleted. This left a total sample size of 102 respondents, all of whom lived in Ireland and used sports nutrition products.

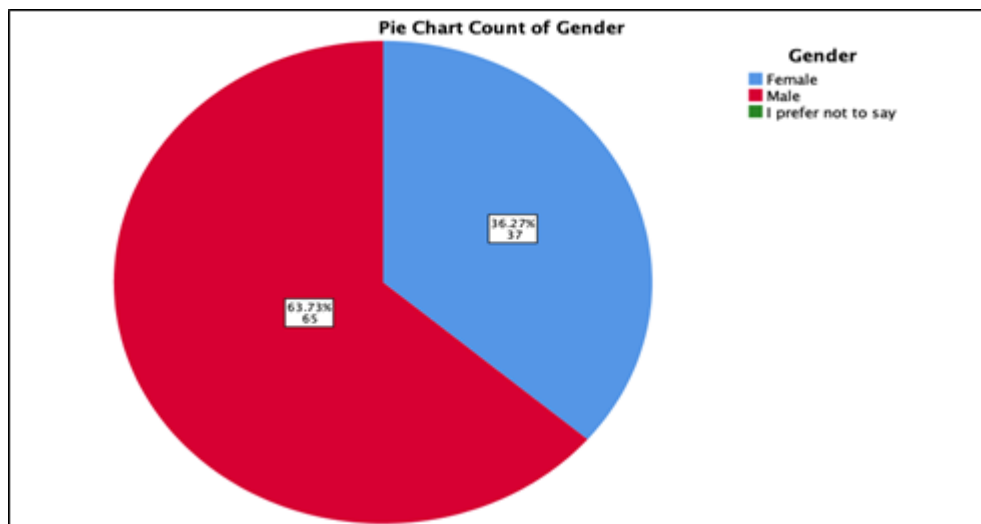


Figure 2: Gender distribution

Figure 2 illustrates that 63.73% of the sample were male, while 36.27% were female. This outcome was expected, as sports nutrition products still appear to be more popular among men (Wesana et al., 2020). Table 1 shows that 57.84% (59 in total) of the respondents were between 25 and 31 years old, while 42.15% (43 in total) were between 32 and 41 years old. Therefore, more respondents belonged to the younger generation of millennials.

Table 1: Gender and age distribution

| | | Age | | Total |
|---------------|---------------|---------|---------|-------|
| | | 25 – 31 | 32 – 41 | |
| Gender | Female | 23 | 14 | 37 |
| | Male | 36 | 29 | 65 |
| | Total | 59 | 43 | 102 |

Furthermore, 94 respondents indicated they are employed full-time, while eight said they are students. The survey was given to personal trainers who sent it to their clients, which explains why most respondents worked full time, as students may not be able to afford personal training.

Attitude towards using sports nutrition products

Attitude was one variable included in the TPB model. In this study, however, attitude was excluded from parametric testing. Instead, to learn more about respondents' attitudes towards sports nutrition brands, they had to rank three statements from most important (1) to least important (3). Table 2 summarises the mean ranks from the Friedman test.

Table 2: Attitude Ranks

| Variable | Mean | Rank |
|---|-------------|-------------|
| I believe that using dietary supplements from my brand will... | | |
| A1: ... improve my performance. | 1.88 | 2 |
| A2: ... improve my physical appearance. | 1.75 | 1 |
| A3: ... help me maintain/achieve a balanced diet for a better general health. | 2.36 | 3 |

A2 appeared to be the most important statement for many respondents as it achieved a mean score (mean = 1.75) closest to 1, followed by A1 (mean = 1.88) and A3 (mean = 2.36). Thus, most millennials primarily use sports nutrition products

to improve their physical appearance. Secondly, to improve their performance and lastly, to help them maintain and/or achieve a balanced diet for a better general health.

Normality of distribution

To determine whether the data of the dependent variable purchase intent were suitable for parametric tests, the normality of distribution was assessed. A normal probability plot was created in SPSS as shown in Figure 3. A normal distribution was assumed if the line on the graph was straight and diagonal (Pallant, 2007).



Figure 3: Normal Probability Plot Purchase Intent

The diagonal line in Figure 3 indicated that the data were normally distributed. Although there were a few residuals, the line was still diagonal and mostly straight. Therefore, purchase intent was used for parametric testing.

Assessing reliability and validity

A Cronbach's alpha score was measured for each construct to determine the internal consistency of items and assess the reliability of the measurement instrument. The score indicated how well items captured the construct, ranging from 0 to 1 (Saunders, Lewis and Thornhill, 2019). Since less than 10 items were used to

measure a construct, a score of 0.500 was considered acceptable, although a score of 0.700 would have been desirable (Pallant, 2007).

Table 3: Cronbach's alpha

| Variable | Number of items | Cronbach's alpha |
|-------------------------------|------------------------|-------------------------|
| Overall Brand Equity | 4 | 0.792 |
| Brand Awareness/Associations | 4 | 0.680 |
| Perceived Quality | 4 | 0.801 |
| Brand Loyalty | 3 | 0.794 |
| Attitude | 4 | - |
| Subjective Norms | 3 | 0.844 |
| Perceived Behavioural Control | 4 | 0.740 |
| Purchase Intent | 3 | 0.842 |

Table 3 illustrates that all constructs were considered reliable, as they achieved a score of at least 0.500. However, brand awareness/associations obtained a score below the desired 0.700. As mentioned previously, attitude items A1 – A3 were measured on a ranking scale ranging from 1 to 3. Only item A4 was measured on a 5-point Likert scale, which was not enough to assess Cronbach's alpha. Therefore, no Cronbach's alpha score could be reported for attitude and the construct was excluded for inferential analysis.

Inferential results

The following sections present the results of parametric tests done to investigate the hypotheses. A standardised multiple regression was performed to assess the relationship between several independent variables (BA, PQ, BL, OBE, SN, PBC) on one dependent variable (PI). A confidence interval of 95% was chosen, meaning that a probability value (hereafter referred to as p-value and reported as 'Sig.' in tables displayed in this study) was compared with a significance level of 0.05. Findings were considered significant if the p-value < 0.05.

Brand equity and purchase intent

The first research question that this study aimed to investigate was whether millennials' purchase intention for sports nutrition products was influenced by brand equity. A standardised multiple regression analysis was used to assess the ability of brand equity (OBE) and its subdimensions (brand awareness/associations [BA], perceived quality [PQ], and brand loyalty [BL]) to predict consumers purchase intent (PI). In addition, to see if any of the variables correlate. No problems with multicollinearity were identified as the tolerance score of all variables was greater than 0.10 and VIF scores below 10. The reported R Square value was 0.637. In other words, 63.70% of variance in purchase intent was explained by the independent variables.

Table 4: ANOVA^a Brand Equity and Purchase Intent

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|--------|--------------------|
| Regression | 14.210 | 4 | 3.553 | 42.536 | 0.000 ^b |
| Residual | 8.096 | 97 | 0.083 | | |
| Total | 22.306 | 101 | | | |

a. Dependent Variable: Purchase Intent

b. Predictors: (Constant), Brand Equity, Brand Awareness/Associations, Perceived Quality, Brand Loyalty

The ANOVA table (see Table 4) showed that the finding was statistically significant as the p -value $< 0.001 < 0.05$. Therefore, the overall regression model was considered significant, as $F(4, 97) = 42.56$, $p < 0.001$, $R^2 = 0.637$. Moreover, the predictors were able to account for a unique amount of variance in the dependent variable as each had a significant finding with a p -value < 0.05 (p -value BA = 0.037, p -value PQ < 0.001 , p -value BL = 0.012, p -value OBE = 0.001). Nevertheless, BA had a negative standardised coefficients beta value of -0.165, meaning that as the variable increased by 1 SD, PI decreased by 0.165 SD. At the same time, BA had the greatest influence on PI, as the reported p -value was highest for this variable. PQ (beta = 0.389), BL (beta = 0.261), and OBE (beta = 0.364) reported a positive beta value, meaning that as any of the variables SD increased, so did the SD of PI.

Furthermore, the findings suggested a significant relationship between the different variables as each had a p-value < 0.05 for Pearson correlation. The correlation matrix in Table 5 shows the correlations between the different variables and reports the r value, which reflects the strength of the relationship and its direction.

Table 5: Correlation Matrix Brand Equity and Purchase Intent

| Variables | PI | BA | PQ | BL | OBE |
|-----------|-------|-------|-------|-------|-------|
| PI | 1.000 | 0.383 | 0.670 | 0.695 | 0.711 |
| BA | 0.383 | 1.000 | 0.573 | 0.514 | 0.526 |
| PQ | 0.670 | 0.573 | 1.000 | 0.609 | 0.596 |
| BL | 0.695 | 0.514 | 0.609 | 1.000 | 0.778 |
| OBE | 0.711 | 0.526 | 0.596 | 0.778 | 1.000 |

All variables had a positive relationship as all reported r values were positive. Therefore, variables changed in the same direction, meaning that, for example, as PQ increased, so did BL. Apart from the relationship between PI and BA, which had a moderate relationship, all other variables had a strong relationship as a r value > 0.50 was reported. The following table summarises the conclusions drawn about H₁ to H₄.

Table 6: Hypotheses Brand Equity and Purchase Intent

| Hypothesis | Accepted | Rejected |
|--|----------|----------|
| H ₁ : Brand awareness/associations does not influence brand equity. | | x |
| H ₂ : Perceived quality positively influences brand equity. | x | |
| H ₃ : Brand loyalty positively influences brand equity. | x | |
| H ₄ : Brand equity positively influences purchases intention. | x | |

As can be seen in Table 6, apart from H₁, H₂ – H₄ were supported. A more thorough discussion follows later in the discussion section.

Theory of planned behaviour and purchase intent

The second research question of this study was to discover what is driving millennials' purchase intention for sports nutrition products. Another standardised multiple regression analysis was used to assess the ability of subjective norms (SN) and perceived behavioural control (PBC) to predict consumers purchase intent (PI). As mentioned before, attitude was measured on a ranking scale and therefore excluded for parametric tests.

The tolerance and VIF score of the variables indicated again that no problems with multicollinearity existed, as respective values were greater than 0.10 and below 10. The R Square value was 0.210, meaning that 21% of variance in purchase intent was explained by subjective norms and perceived behavioural control.

Table 7: ANOVA^a TBP and Purchase Intent

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|--------|--------------------|
| Regression | 4.681 | 2 | 2.340 | 13.145 | 0.000 ^b |
| Residual | 17.625 | 99 | 0.178 | | |
| Total | 22.306 | 101 | | | |

- a. Dependent Variable: Purchase Intent
- b. Predictors: (Constant), Subjective Norm, Perceived Behavioural Control

The ANOVA table (Table 7) demonstrated that the p-value $< 0.001 < 0.05$. The finding was therefore significant as well as the overall regression analysis, as $F(2, 99) = 13.15$, $p < 0.001$, $R^2 = 0.210$. However, only SN (p-value = $0.001 < 0.05$) had a significant finding as a predictor of PI and was able to account for a unique amount of variance in the dependent variable. As the SD of SN (beta = 0.383) increased by 1, so did PI by 0.383. On the contrary, PBC did not account for a unique amount of variance in PI, as the coefficient had a p-value = $0.280 > 0.05$. Nevertheless, the correlation matrix suggested a positive relationship between PBC and PI, as the p-value $< 0.001 < 0.05$.

The correlation matrix below illustrates the strength of the correlation between the different variables, reflected by the reported r value. The finding for all variables was significant, as a p-value < 0.05 was reported for Pearson correlation.

Table 8: Correlation Matrix TPB and Purchase Intent

| Variables | SN | PBC | PI |
|-----------|-------|-------|-------|
| SN | 1.000 | 0.552 | 0.448 |
| PBC | 0.552 | 1.000 | 0.328 |
| PI | 0.448 | 0.328 | 1.000 |

Table 8 shows that there was a strong relationship between PBC and SN ($r = 0.552 > 0.5$) while the relationship between PI and SN ($r = 0.448 < 0.5$) as well as PI and PBC ($r = 0.328 < 0.5$) was moderate. For that reason, H_5 and H_6 were supported, as can be seen in Table 9. In the next section, a more detailed discussion on the findings and its implications follows.

Table 9: Hypotheses TPB and Purchase Intent

| Hypothesis | Accepted | Rejected |
|--|----------|----------|
| H_5 : The attitude of significant others towards the brand influences the consumer's purchase intention. | x | |
| H_6 : Perceived behavioural control towards the brand influences the consumer's purchase intention. | x | |

Discussion and implications

The aim of this study was to investigate whether brand equity influences the purchase intention for sports nutrition products among millennials in Ireland and what factors affect their purchase decisions. The results and implications thereof are summarised in Table 10.

Table 10: Summary of results

| Hypothesis | Sig. | Result | Main finding |
|---|--------|----------|---|
| H ₁ : Brand awareness/ associations | <0.001 | Rejected | Brand awareness/ associations influenced brand equity. |
| H ₂ : Perceived quality | <0.001 | Accepted | Perceived quality influenced brand equity. |
| H ₃ : Brand loyalty | <0.001 | Accepted | Brand loyalty influenced brand equity. |
| H ₄ : Brand equity | <0.001 | Accepted | Brand equity influenced purchase intent. |
| H ₅ : The attitude of significant others | <0.001 | Accepted | The attitude of significant others influenced millennials' purchase intent. |
| H ₆ : Perceived behavioural control | <0.001 | Accepted | Perceived behavioural control influenced millennials purchase intent. |

Apart from H₁, all other hypotheses examined in this study had a significant finding and were therefore accepted. More details are discussed next.

First research question: brand equity and purchase intent

The first research question investigated whether millennials' purchase decision for sports nutrition products is influenced by brand equity. This study also explored the effect of brand awareness/associations, perceived quality, and brand loyalty as subdimensions of brand equity. The results for H₂ – H₄ were significant, suggesting that brand equity influenced millennials' purchase decision for sports nutrition products. Moreover, brand equity was influenced by perceived quality and brand loyalty. H₁ was rejected as the result was insignificant. However, it was hypothesised that brand awareness/associations does not influence brand equity, which this study controverted. Nonetheless, an inverse relationship between brand

awareness/associations and purchase intention existed. Thus, purchase intention decreased as brand awareness increased. The introductory text of the survey indicated that respondents were asked to answer the following statements while thinking of the last sports nutrition brand they purchased. Therefore, if the last brand purchased was one that the respondent did not like, their intention to purchase it again could be lower, which could explain this result.

Moreover, purchase intention positively correlated with all variables. Therefore, sports nutrition brand managers should consider brand awareness/associations, perceived quality, brand loyalty, and overall brand equity as they can influence Irish millennials purchase intention. Brand loyalty was the strongest driver of brand equity. Thus, sports nutrition brand managers should focus on building loyal relationships with customer as this will have a positive effect on brand equity and consumer purchase intention.

Brand awareness/associations

The first hypothesis addressed was:

H₁: Brand awareness/associations does not influence brand equity.

Given the insignificant finding, H₁ was rejected. Thus, brand equity in this study was influenced by brand awareness/associations and the results of Wesana *et al.* (2020), who found an insignificant relationship, were refuted. Instead, the findings of Keller (2001) and Sasmita and Suki (2015) were supported, who discovered a positive influence of brand awareness/associations on brand equity.

For brand equity to emerge, one can argue that consumers must first be aware of a brand and have some knowledge of it by linking brand associations in their memory. Brand awareness is a crucial first step before consumers can form an image of quality or build a relationship with that brand. Otherwise, neither a brand image nor brand knowledge can emerge, as no associations are made. This assumption is supported by Keller's (2001) CBBE model and the four steps he suggests for building a strong brand. He considers each step of the pyramid as a precursor to the next and argues that brand loyalty at the top cannot be achieved without the other steps. Brand awareness is at the bottom of the pyramid and refers to the brand identity that a consumer has created through a high level of awareness. Therefore, creating a strong brand would not be possible without brand awareness/associations, which explains why this variable positively influences brand equity.

There was a moderate relationship between brand awareness/associations and purchase intent, which contradicted the findings of Azzari and Pelissari (2020). However, an invert relationship existed, suggesting that as consumers' knowledge of a brand increases, their purchase intention decreases. Nevertheless, this could only be the case if consumers do not like a brand and thus do not intend to repurchase it.

Furthermore, in support of Saleem, Rahman and Omar's (2015) findings, brand awareness/associations influenced brand loyalty. When consumers buy a brand regularly, they may have positive feelings towards it, identify it when they want to satisfy a need, and may even have it as a preferred choice, meaning that loyalty has been created through awareness. This assumption is supported by Aaker (1996), who argues that there are different levels at which brand awareness can occur, ranging from mere brand recognition (having heard of a brand name), to top-of-mind (recalling a brand first when wanting to fulfill a need), to brand knowledge (knowing what the brand represents), and having an opinion about a brand. The importance of different levels of brand awareness varies, depending on how long a brand has been on the market and how established it is.

Consequently, sports nutrition managers should consider brand awareness/associations as an important driver of brand equity and ultimately purchase decision of Irish millennials. It is recommended that niche or new brands focus on brand recognition to ensure awareness among millennials, while well-known brands should aim to be at the top of mind. In this way, brand knowledge is strengthened, and consumers ideally form a positive opinion of a brand.

Perceived quality

The second hypothesis addressed was:

H₂: Perceived quality positively influences brand equity.

As expected, the result was significant. Thus, brand equity was positively influenced by perceived quality as the finding of various researchers confirmed (Buil, Martínez and de Chernatony, 2013; Aydin and Ulengin, 2015; Wesana *et al.*, 2020). Moreover, there was a strong correlation between perceived quality and purchase intent, confirming the findings of Sasirekha and Sathis (2017). Thus, perceived quality was found to be a strong driver of purchase intention and an antecedent of brand loyalty.

Aaker (1996) claims that perceived quality is a key dimension of brand equity, allowing brands to charge higher prices. Furthermore, Keller (2001) argues that consumers need brand experience to judge its performance, i.e., the quality of its

products. When brands meet or exceed customers' expectations, they can build loyal relationships. If the opposite is the case, consumer dissatisfaction arises and the likelihood of future purchases decreases. It is therefore logical that perceived quality has a positive impact on brand loyalty and ultimately on brand equity and purchase intent.

Focusing on intrinsic and extrinsic product attributes could help brand managers of sports nutrition brands to influence consumers' perception of the quality of their products and brands. For example, the packaging and design of the product can signal quality. Simply creating a strong brand can signal quality to consumers, and consumers are more likely to transfer their perception of quality to other products of the same brand. Higher prices can also signal higher quality, and enhancing the brand image through appropriate marketing efforts can improve quality.

Brand loyalty

The third hypothesis addressed was:

H₃: Brand loyalty positively influences brand equity.

The significant result confirmed that brand loyalty positively influenced brand equity. In fact, supporting the findings of various scholars (Aaker, 1996; Saleem, Rahman and Omar, 2015; Wesana *et al.*, 2020), brand loyalty had the strongest effect on brand equity. Furthermore, a strong correlation between brand loyalty and purchase intent existed and the variable was influenced by brand awareness/associations and perceived quality. Buil, Martínez and de Chernatony (2013) claim that brand loyalty is influenced by brand awareness, brand associations, and perceived quality, which this study confirmed. Moreover, the findings of Yoo, Donthu and Lee (2000) were supported, who argue that brand loyalty is one of the three components of the CBEE model, all of which influence brand equity.

Considering that brand loyalty is the desired outcome of CBBE, it makes sense that this variable had the strongest effect on brand equity. Loyal consumers have a positive attitude towards this brand because strong, positive brand associations have been created. It can also be assumed that customers' expectations tend to be met or exceeded, which strengthens the relationship between brand and consumer. Consequently, the consumers' purchase intention increases.

To support this assumption, Keller (2001) and Aaker (1996) argue that the core of the CBBE model is brand loyalty. Keller (2001) considers loyalty as the psychological attachment a consumer has with a brand that reinforces activities such as repeat

purchases, positive WOM or seeking brand information. Aaker (1996) argues that customer satisfaction and loyalty go hand in hand, as satisfied consumers are more likely to become loyal. In either case, consumers have a positive attitude towards the brand, which results in desirable responses, activities, and a relationship, i.e., a strong brand was created.

It is recommended that sports nutrition brand managers invest in building loyal relationships with millennials to positively influence their purchase decision. Bharadwaj and Bezborah (2021) already suggested that giving free samples could increase brand loyalty for sports nutrition products, but only if placed effectively.

Overall brand equity

The fourth hypothesis addressed was:

H₄: Brand equity positively influences purchases intention.

The significant result suggested that purchase intention was positively influenced by brand equity, which supported the finding of various scholars (Holehonnur *et al.*, 2009; Sasirekha and Sathish, 2017; Azzari and Pelissari, 2020). Moreover, the results indicated that brand loyalty was the strongest driver of brand equity, followed by perceived quality and brand awareness/associations.

Brand equity means that a brand has created a strong position in the market. Its brand name signals value and consumers tend to be loyal. Therefore, it was expected that brand equity positively influences millennials' purchase intention. Moreover, risks associated with making a purchase are reduced, as consumers are familiar with the brand (Azzari and Pelissari, 2020).

It is recommended that sports nutrition brand managers reconsider how the CBBE model can be applied to their brand, as this study confirms that it can drive purchase intent among millennials and increase sales. In addition, brand equity allows brands to differentiate themselves, which means consumers are less likely to switch to competitors, allowing them to charge higher prices and achieve a higher financial return.

Second research question: TPB and purchase intent

The second research question addressed in this study was to determine what is driving millennials' purchase intention for sports nutrition products and the theory of planned behaviour was applied. The results indicated that subjective norms and

perceived behavioural control correlated with purchase intention. In other words, significant others and the sense of control millennials perceive when using sports nutrition products influenced their purchase decision.

Attitude

The results indicated that consumers consider improving their physical appearance to be most important for using sports nutrition products. This was followed by enhancing performance and maintaining/achieving a balanced diet for a better overall health. This findings supports that of Keogh, Li and Gao (2019), who found that the most important reason for recreational users of whey protein products in Ireland was to improve their body and health function. Moreover, El Khoury *et al.* (2021) discovered that the main goal for supplement users in Canada was to improve their physical appearance, performance and general health. For that reason, one can assume that users of supplements across different countries use them for similar reasons. It seems that enhancing one's physical appearance is the strongest driver influencing consumers' purchase intention for sports nutrition products.

Subjective norms

The fifth hypothesis addressed was:

H₅: The attitude of significant others towards the brand influences the consumer's purchase intention.

The significant result suggested that subjective norms and purchase intent moderately correlated, which confirmed El Khoury *et al.* (2021) and Chen, Chao and Chu's (2022) findings, who argue that consumers' purchase intention is affected by the opinion of significant others. In the context of this study, the significant finding suggested that important others such as friends can influence millennials' purchase intention for sports nutrition products.

Therefore, sports nutrition brand managers should aim to influence the perceptions of a wider audience of supplement users, for example through social media. However, this study did not clarify who consumers consider to be significant others and whether influencers are part of this group. Influencer marketing is widely used in this industry and as a source that consumers trust (Euromonitor International, 2021b). Therefore, further investigation is recommended.

Perceived behavioural control

The last hypothesis addressed was:

H₆: Perceived behavioural control towards the brand influences the consumer's purchase intention.

There was a moderate relationship between perceived behavioural control and purchase intent. However, the relationship was not as strong as that between subjective norms and purchase intention. Nonetheless, the results suggested that the greater the sense of control, the greater millennials' purchase intention, confirming the findings of El Khoury *et al.* (2021) and Chen, Chao and Chu (2022).

When a consumer feels they have control over a particular behaviour, their intention may be greater. Respondents in this study had a strong sense of control when using sports nutrition products, as indicated by the composite mean (mean PBC = 4.52). In addition, their intention to purchase a brand of their choice was high (composite mean PI = 4.24). Although this study did not examine price premiums or specific brands, given the above results, it can be argued that price premiums did not influence millennials' perceptions of control and resources (i.e., money), regardless of their employment status. This result is supported by Ajzen (1991) who claims that the fewer barriers consumers expect to face, the greater their perceived behavioural control and intention to perform a behaviour.

It is suggested that communication from sports nutrition brands gives consumers a sense of control, i.e., they feel free to use the products, which could positively influence their purchase intention.

Limitations and future research

Although the present study was the first to integrate the theory of planned behaviour and CBBE model to examine the impact on millennials' purchase decision for sports nutrition products, it had some limitations, such as being limited to Ireland and Irish millennials. Therefore, the results are limited to this study and cannot be generalised to the entire population.

Although the items of the scale for the survey were taken from other sources that had been tested for reliability and validity by previous researchers, the results indicated that some of the items were not very useful. As the items were taken from studies in other countries, it is possible that consumer attitudes have changed over time. Consequently, the items in the scale should be reconsidered and new items

developed specifically for Ireland. It is also recommended that the brand awareness/associations be split for future research, as the Cronbach's alpha was below the desired value of 0.700, and that attitudes be measured on a rank scale to account for parametric testing.

The study took a general approach and did not examine the impact on specific sports nutrition brands, which should be done in the future to identify patterns in consumer responses. In this way, strong brands could be identified and used as a benchmark. In addition, researchers should find out what drives consumer loyalty to sports nutrition brands, as this was the strongest driver of brand equity, but previous research in this industry is limited.

Conclusion

This study was conducted in Ireland and aimed to investigate whether brand equity influences millennials' purchase intention for sports nutrition products in Ireland and what factors influence their purchase decision. In conclusion, brand equity influenced millennials' purchase intention for sports nutrition products and was influenced by all its three subdimensions. Moreover, millennials' purchase intention was influenced by the attitudes of significant others and their own perceived behavioural control. Therefore, sports nutrition brands in Ireland should invest in brand equity as it can have a positive influence on millennials' purchase intention and therefore drive brand success.

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Appendices

Appendix 1: Variable item table

| Variable | Item code | Original item | Source | Adapted item | Hypothesis |
|-------------------------------|-----------|--|----------------------------|--|------------|
| Overall Brand Equity | OBE1 | It makes sense to buy X instead of any other brand, even if they are the same. | Yoo, Donthu and Lee (2000) | It makes sense to buy the brand I use instead of any other brand, even if they are the same. | 4 |
| | OBE2 | Even if another brand has the same features as X, I would prefer to buy X. | | Even if another brand has the same features the brand I use, I would prefer my brand. | |
| | OBE3 | If there is another brand as good as X, I prefer to buy X. | | If there is another brand as good as the brand I use, I prefer to buy my brand. | |
| | OBE4 | If another brand is not different from X in any way, it seems smarter to purchase X. | | If another brand is not different from the brand I use in any way, it seems smarter to buy my brand. | |
| Brand Awareness/ Associations | BA1 | I know what X looks like. | Yoo, Donthu | I know what the brand I use looks like. | 1 |

| | | | | | |
|-------------------|-----|---|----------------------------|---|---|
| | BA2 | I can recognise X among other competing brands. | and Lee (2000) | I can recognise the brand I use among other competing brands. | |
| | BA3 | Some characteristics of X come to mind quickly. | | Some characteristics of the brand I use come to mind quickly. | |
| | BA4 | I can quickly recall the symbol or logo of X. | | I can quickly recall the symbol or logo of the brand I use. | |
| Perceived Quality | PQ1 | X is of high quality. | Yoo, Donthu and Lee (2000) | The brand I use is of high quality. | 2 |
| | PQ2 | X appears to be of very poor quality. (r) | | The brand I use appears to be of very poor quality. (r) | |
| | PQ3 | The likelihood that X is reliable is very high. | | The likelihood that the brand I use is reliable is very high. | |
| | PQ4 | X must be of very good quality. | | The brand I use must be of very good quality. | |
| Brand Loyalty | BL1 | I consider myself to be loyal to X. | Yoo, Donthu and Lee (2000) | I consider myself to be loyal to the brand I use. | 3 |

| | | | | | |
|-----------------|-----|---|-----------------------------|---|------------|
| | BL2 | X would be my first choice. | | The brand I use would be my first choice. | |
| | BL3 | I will not buy other brands if X is available at the store. | | I will not buy other brands if the brand I use is available at the store. | |
| Purchase Intent | PI1 | I am willing to purchase organic foods if they are available. | (Wang <i>et al.</i> , 2019) | I am willing to purchase the brand I use if it is available. | 4, 5, 6, 7 |
| | PI2 | I Intend to buy organic foods if they are available. | | I Intend to buy the brand I use if it is available. | |
| | PI3 | My willingness to buy the product is very high. | Legendre and Coderre (2018) | My willingness to buy the brand I use is very high. | |
| Attitude | A1 | I believe that using dietary supplements will improve my performance. | Khoury <i>et al.</i> (2021) | I believe that using dietary supplements from my brand will improve my performance. | 5 |
| | A2 | I believe that using dietary supplements will improve my physical appearance. | | I believe that using dietary supplements from my brand will improve my physical appearance. | |

| | | | | | |
|-------------------------------|------|---|-----------------------------|---|---|
| | A3 | I believe that using dietary supplements will help me maintain/achieve a balanced diet for a better general health. | | I believe that using dietary supplements from my brand will help me maintain/achieve a balanced diet for a better general health. | |
| | A4 | I believe that dietary supplements are safe. | | I believe that dietary supplements from the brand I use are safe. | |
| Perceived Behavioural Control | PBC1 | Whether I take or do not take dietary supplements from now on is entirely up to me. | Khoury <i>et al.</i> (2021) | Whether I purchase or do not purchase dietary supplements from the brand I use from now on is entirely up to me. | 7 |
| | PBC2 | It is easy for me to take dietary supplements from now on. | | It is easy for me to purchase dietary supplements from this brand from now on. | |
| | PBC3 | I have complete control over whether to take or not to take dietary supplements from now on. | | I have complete control over whether to take or not to take dietary supplements from the brand I | |

| | | | | | |
|------------------|------|--|-----------------------------|---|---|
| | | | | use from now on. | |
| | PBC4 | Whether I take or do not take dietary supplements from now on is beyond my control. | | Whether I purchase or do not purchase dietary supplements from the brand I use from now on is beyond my control. | |
| Subjective Norms | SN1 | My personal trainer would support the use of caffeine-containing products to enhance sports performance. | Samoggi a & Rezzaghi , 2021 | My personal trainer would support the use of dietary supplements from my brand to enhance sports performance. | 6 |
| | SN2 | Many people who are important to me would support the use of caffeine-containing products to enhance sports performance. | | Many people who are important to me would support the use of dietary supplements from my brand to enhance sports performance. | |

| | | | | | |
|-------------|-----|--|-----|--|--|
| | SN3 | My teammates would support the use of caffeine-containing products to enhance sports performance | | My friends would support the use of dietary supplements from my brand to enhance sports performance. | |
| Demographic | D1 | N/A | N/A | Please indicate your age group. | |
| | D2 | | | Are you currently living in Ireland? | |
| | D3 | | | Do you use sports nutrition products? | |
| | D4 | | | To which gender do you most identify? | |
| | D5 | | | Please indicate your employment status. | |

Appendix 2: Information Sheet

Information Sheet for Participants: Online survey

Research project title: The effects of brand equity on millennials' purchase decision for sports nutrition products in Ireland

Student Researcher: Denise Louvet (10581276@mydbs.ie)

Research Supervisor: Eva Perez (eva.perez@dbs.ie)

About the Project

Dear Participant,

My name is Denise Louvet, and I am a master's student at Dublin Business School. I am carrying out my thesis project under the direct supervision of Eva Perez about brand management.

The aim of the project is to learn more about the importance of branding in the sports nutrition industry.

I would like to invite you to take part in an online survey. If you agree to take part in the online survey, you will be asked several questions about your purchase decisions of your preferred sports nutrition products. The survey should take no longer than 10 minutes.

Data Protection

The data you provide as part of this questionnaire will be fully anonymous. I will not gather any direct personally identifying information about you or anyone close to you. You will be asked to provide optional demographic information of a broad nature about yourself. Your data will be collated into a larger dataset and analysed at the group rather than the individual level. Your data will only be used for academic purposes and will not be shared with anyone for commercial purposes.

What are the risks and benefits of taking part in this study?

In addition to providing much appreciated assistance to the student researcher, the main benefit of taking part in this study will be your contribution to academic research, which aims to expand knowledge and generate new insights. There will be

no risks posed to you as a participant in this study, either physical or psychological, beyond that which is normally expected of day-to-day activities.

If you are interested in taking part...

If you are interested in taking part, please review the information provided in the consent form and if you are happy to proceed with the study then please indicate your willingness to take part by ticking the appropriate box / signing your name where appropriate.

You are under no obligation to take part in this study or to provide a reason if you decide not to take part. You may choose not to take part without fear of penalty. If you agree to take part, you have the right to cease participation and withdraw your data at any time for any reason without fear of penalty. The data will not be used by any member of the project team for commercial purposes.

Appendix 3: Consent Form

Consent Form

I voluntarily agree to take part in this research study.

I understand that I am not obliged to take part in this study and that my participation in the study is entirely voluntary.

I understand that I am free to withdraw from the study at any time or refuse to answer any question without the need to provide reason and without fear of negative consequences.

I understand that my responses will be anonymous.

I understand that in the case of completing an anonymous questionnaire, it will not be possible to subsequently withdraw my data due to the fact that there will be no personally identifying information attached to my responses.

I understand that I will not benefit directly from participating in this research.

I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

I understand that signed consent forms will be retained for some time until the exam board confirms the results of their dissertation.

I confirm that I have had the purpose and nature of the study explained to me in writing and

I have had the opportunity to ask questions about the study with satisfactory answers provided.

| | | |
|--|--------------------------|--------------------------|
| I confirm that I have read and fully understood the information provided and statements above. | Yes | No |
| | <input type="checkbox"/> | <input type="checkbox"/> |
| I agree to take part in this survey. | Yes | No |
| | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix 4: Questionnaire

Section A:

(D1) Please indicate your age group. (18-24 / 25-31 / 32-41 / 42-52 / 53+)

(D2) Are you currently living in Ireland? (Yes / No)

(D3) Do you use sports nutrition products? (Yes / No)

*The survey will automatically end if:

1. An age group lower than 25 or greater than 41 was selected for D1
2. 'No' was selected for D2 and D3

Section B:

Please read the following statements carefully and think of the sports nutrition brand you last bought. Select the answer that best describes your personal opinion of the statement provided. If you select 1 it means that you strongly disagree with the given statement. If you select 5 it means that you strongly agree with the given statement. If you are unsure what to answer, please select 3 for 'neutral'.

(BA2) I can recognise the brand I use among other competing brands.

(PQ1) The brand I use is of high quality.

(OBE2) Even if another brand has the same features as the brand I use, I would prefer my brand.

(SN2) Many people who are important to me would support the use of dietary supplements from my brand to enhance sports performance.

(BL1) I consider myself to be loyal to the brand I use.

(PQ2) The brand I use appears to be of very poor quality. (r)

(PI3) My willingness to buy the brand I use is very high.

(PBC2) It is easy for me to purchase dietary supplements from the brand I use from now on.

(OBE1) It makes sense to buy the brand I use instead of any other brand, even if they are the same.

(PQ4) The brand I use must be of very good quality.

(BL3) I will not buy other brands if the brand I use is available at the store.

(BA1) I know what the brand I use looks like.

(SN3) My friends would support the use of dietary supplements from my brand to enhance sports performance.

(OBE3) If there is another brand as good as the brand I use, I prefer to buy my brand.

(SN1) My personal trainer would support the use of dietary supplements from my brand to enhance sports performance.

(PI2) I intend to buy the brand I use if it is available.

(PQ3) The likelihood that the brand I use is reliable is very high.

(BA3) Some characteristics of the brand I use come to mind quickly.

(PBC1) Whether I purchase or do not purchase dietary supplements from the brand I use from now on is entirely up to me.

(BL2) The brand I use would be my first choice.

(BA4) I can quickly recall the symbol or logo of the brand I use.

(PI1) I am willing to purchase the brand I use if it is available.

(PBC3) I have complete control over whether to take or not to take dietary supplements from the brand I use from now on.

(A4) I believe that dietary supplements from the brand I use are safe.

(OBE4) If another brand is not different from the brand I use in any way, it seems smarter to buy my brand.

(PBC4) Whether I purchase or do not purchase dietary supplements from the brand I use from now on is beyond my control.

Please rate the following statements from 1 (most important) to 3 (least important): I believe that using dietary supplements from my brand will...

(A1) improve my performance.

(A2) improve my physical appearance.

(A3) help me maintain/achieve a balanced diet and general health.

Section C:

(D4) To which gender identity do you most identify? (Female / Male / I prefer not to say)

(D5) Please indicate your employment status. (Employed Full-time / Employed Part-time / Unemployed / Student / Retired)

The survey ends here. Thank you for your participation.

Appendix 5: Coding sheet

| Question | Answer questionnaire | Code meaning |
|--|----------------------|--------------|
| D1 | 18-24 | 1 |
| | 25-31 | 2 |
| | 32-41 | 3 |
| | 42-52 | 4 |
| | 53+ | 5 |
| D2 | Yes | 1 |
| D3 | No | 2 |
| D4 | Female | 1 |
| | Male | 2 |
| | I prefer not to say | 3 |
| D5 | Employed Full-time | 1 |
| | Employed Part-time | 2 |
| | Unemployed | 3 |
| | Student | 4 |
| | Retired | 5 |
| OBE1 – OBE4 BA1 – BA4 PQ1 – PQ4 BL1 – BL3 PI1 – PI3 A4 PBC1 – PB4 SN1 – SN4 | Strongly disagree | 1 |
| | Disagree | 2 |
| | Neutral | 3 |
| | Agree | 4 |
| | Strongly agree | 5 |

| | | |
|-------|-----------------|---|
| A1-A3 | Most important | 1 |
| | Important | 2 |
| | Least important | 3 |