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# Five dimensions of brand personality traits in sport

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ABSTRACT

The first purpose of this study was to elaborate upon existing critiques and return to the fundamental brand personality concept by reexamining personality trait theory (i.e., lexical approach) and the sport brand personality literature. Based on a conceptualisation of sport brand personality, the second purpose was to develop an instrument for measuring brand personality in sport based on the restricted definition that excludes non-human personality traits. We adopted the lexical approach in an effort to explore the application of the HEXACO model for obtaining a set of representative personality traits ($N = 36$) both applicable and relevant to sport brands. For the purpose of this study, a sport brand × subject structure was utilised to find major sport brand personality dimensions. As a representative brand in sport, the National Football League was selected. Two data sets were collected from college students. The 36 sport brand personality traits were submitted to a principal axis factor analysis on the first data set ($N = 196$). The analysis identified five factors (i.e., Agreeableness, Extraversion/Emotionality, Openness, Conscientiousness, and Honesty) that closely resemble the structure of human personality models. A Confirmatory Factor Analysis confirmed that the newly developed five-factor model has an acceptable fit to the second data set ($N = 155$). This study identified that the lexical approach can provide a conceptual and methodological foundation when developing brand personality instruments.

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## 1. Introduction

With the proliferation of brands in an increasingly competitive marketplace, brand managers or practitioners have long sought to develop marketing strategies to differentiate their brands from competitors beyond utilitarian or functional characteristics (Aaker, 1997; Austin, Siguaw, & Mattila, 2003; Azoulay & Kapferer, 2003). A brand has emotional and symbolic human personality aspects that influence consumer behaviours beyond utilitarian or functional attributes (Aaker, 1997). Marketing strategies using the brand personality concept encourage consumers to think of a brand as having a human personality (Aaker, 1997). Through marketing efforts, consumers could easily attribute human personality traits to

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inanimate subjects such as brands (Arora & Stoner, 2009; Azoulay & Kapferer, 2003). For example, consumers considered the brand personality of Oil of Olay as "gentle" and "down-to-earth," while Holiday Inn's brand personality has been described as "friendly," "practical," and "reliable" (Aaker, 1997; Parker, 2009; Plummer, 2000). Moreover, "human beings have a uniform need for identity, and often search for this through the symbolisms and meanings carried by products and brands" (Wee, 2004, p. 317). Therefore, Austin et al. (2003) suggest that "choosing a brand with the right personality characteristics enables the consumer to develop a visible and a unique representation of him/herself" (p. 77). Brand personality could be an effective marketing tool for differentiating brands from competitors, and subsequently, for developing marketing strategies for sustainable competitive advantage (Buresti & Rosenberger, 2006; Keller, 2008).

Given the importance of symbolic meaning of a brand, interest in brand personality has increased in the marketing research literature (Aaker, 1997; Sweeney & Brandon, 2006). As a consequence, developing valid and reliable instruments that measure brand personality dimensions is important (Aaker, 1997; Austin et al., 2003; Geuens, Weijters, & De Wulf, 2009). In addition, in recent years, sport management researchers have become increasingly interested in measuring brand personality within the sport industry (Braunstein & Ross, 2010; Lee & Cho, 2012; Ross, 2008; Schade, Piehler, & Burmann, 2014; Tsiotsou, 2012). Within the context of spectator sport, previous research has indicated that sport brands have a variety of meaningful symbolic connections for spectators, such as community pride, socialisation with one's family or friends when attending sport events, vicarious achievement, wholesome environment, and identifying sport players as good role models for girls and boys (Pritchard & Funk, 2010). Given the meaningful symbolic nature of sport brands, previous studies in sport management have measured brand personality in professional sport teams/clubs (Braunstein & Ross, 2010; Schade et al., 2014; Tsiotsou, 2012), intercollegiate sport teams (Ross, 2008), sport organisations (Smith, Graetz, & Westerbeek, 2006), sport sponsorship (Musante, Milne, & McDonald, 1999), and sporting events (Lee & Cho, 2012).

Aaker (1997) introduces anthropomorphism theory as an explanation for why consumers are likely to attribute human characteristics to non-human entities, such as brands. Aaker (1997) defines brand personality as "the set of human characteristics associated with a brand" (p. 347). Based on this conceptualisation of brand personality, Aaker (1997) developed a brand personality scale that encompasses five dimensions: Sincerity, Excitement, Competence, Sophistication, and Ruggedness. Aaker's (1997) study is an important work assisting researchers and practitioners not only in understanding the symbolic meaning of brands, but also with measuring the symbolic human personality aspects of brands (Austin et al., 2003). However, to date, Aaker's brand personality model and other brand personality studies following Aaker's framework have been criticised regarding the inclusion of other characteristics beyond personality in the scale items, such as socio-demographics (e.g., age, gender, social class) or non-personality traits (Austin et al., 2003; Avis, 2012; Azoulay & Kapferer, 2003; Geuens et al., 2009). A second critique relates to the non-generalisability of the scale. This critique regards the issue of why the brand personality framework does not generalise to individual brands within a product or service category (Austin et al., 2003; Azoulay & Kapferer, 2003). A third criticism concerns the non-replicability of the brand personality factor structure (Geuens et al., 2009). All attempts to develop a sport brand personality measurement have replicated neither Aaker's brand personality structure nor the human personality factors such as the Big Five dimensions or HEXACO dimensions.

While brand personality has become an increasingly important concept in the sport management literature, there is a lack of a conceptual and methodological foundation that might resolve the critiques. Therefore, the first purpose of this study is to elaborate upon existing critiques and return to the fundamental brand personality concept by reexamining personality theory and the sport brand personality literature (Avis, 2012; Geuens et al., 2009). Based on a conceptualisation of sport brand personality, the second purpose is to develop an instrument for measuring brand personality in sport based on the restricted definition that excludes non-human personality traits, focusing on understanding the symbolic meanings of a sport brand within a specific category (i.e., a professional sport league in the U.S.).

## 2. Review of literature

### 2.1. Theoretical background of brand personality

Why would sport consumers associate human personality traits with a sport brand? Animism and anthropomorphism theory can be applied to support brand personality phenomena within the context of consumers' psychological process of imbuing human characteristics to non-human objects, such as brands (Avis, 2012; Puzakova, Kwak, & Rocereto, 2009). Animism and anthropomorphism can be defined as "attributing life to the nonliving" and "attributing human characteristics to the nonhuman" respectively (Avis, 2012; Guthrie, 1993, p. 52). Although animism and anthropomorphism have been used as interchangeable theories in the marketing literature, Puzakova et al. (2009) argued that "social psychologists explicitly differentiate between the two psychological processes" (p. 413). Epley, Waytz, and Cacioppo (2007) argued that "anthropomorphism involves more than simply attributing life to the nonliving (i.e., animism)" (p. 865). In the context of brand marketing, consumers' psychological process of imbuing human personality traits into brands may not be synonymous with merely attributing life to the brands (Avis, 2012; Freling & Forbes, 2005; Puzakova et al., 2009). In addition, "brands are routinely being perceived as some kind of animate humanlike entities by consumers" (Avis, Aitken, & Ferguson, 2012, p. 313). Anthropomorphic theory enables sport brand personality researchers to answer the question of why sport consumers attribute human personality traits to their sport brands (Avis, 2012; Freling & Forbes, 2005; Puzakova et al., 2009).

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Since a brand, like a person, can generally be described with human personality traits, brand personality studies might follow a lexical approach or a lexical hypothesis, which suggests that personality differences tend to become encoded in human personality traits (Azoulay & Kapferer, 2003; Caprara, Barbaranelli, & Guido, 2001; Goldberg, 1990). McCrae and Costa (1997) define personality traits as "relatively enduring styles of thinking, feeling, and acting" (p. 509). In the taxonomies of human characteristic descriptors, human personality traits are considered to be consistent or stable over long periods of time, whereas states are viewed as externally caused, inconsistent, or temporary manifestations (Chaplin, John, & Goldberg, 1988). In a seminal and pioneering study on human personality trait descriptors in personality psychology (Briggs, 1992), Allport and Odbert (1936) conducted a lexical approach and identified 17,953 words that could be used to distinguish an individual's behaviour/conduct from another's. Furthermore, Allport (1937) identified trait-descriptive terms and derived a list of 4504 "real" traits of personality, defined as "generalised and personalised determining tendencies – consistent and stable modes of an individual's adjustment to his environment" (p. 26). Norman (1967) reduced the list of 4504 to 2800 human personality traits that mostly consist of adjectives (Briggs, 1992). Norman elaborated these classifications into several categories: (a) 2800 human personality traits or stable traits (e.g., agreeable, emotional, adventurous, creative, consistent, fair-minded, ethical); (b) temporary states, physical states, and activities (e.g., abashed, obeying, carping); (c) social roles, social evaluations, relationships, and effects (e.g., captive, dangerous, soporific); and (d) exclusion categories (e.g., awful, bad, male).

The lexical approach has been generally accepted among personality researchers as a major theoretical foundation in the study of personality structure (Ashton & Lee, 2005b). According to the lexical approach in personality psychology, all major dimensions of personality should be represented in the category of stable traits (Ashton & Lee, 2005b). Since the 1990s, personality researchers have found five major dimensions of personality captured by the Big Five (Ashton, Lee, & Goldberg, 2004; Goldberg, 1990), which include five factors: (a) Agreeableness; (b) Conscientiousness; (c) Emotional Stability; (d) Extraversion; and (e) Intellect/Imagination or Openness to Experience. Recently, however, Ashton and his colleagues suggested that the Big Five structure may be in need of significant revisions, and proposed a new framework named the HEXACO model that postulates a set of six personality dimensions: (a) Honesty/Humility; (b) Emotionality; (c) Extraversion; (d) Agreeableness; (e) Conscientiousness; and (f) Openness to Experience (Ashton & Lee, 2007; Ashton et al., 2004). Ashton et al. (2004) argue that "this six-factor structure may be a strong candidate to be an optimal taxonomy of human personality variation" (p. 708). Both the Big Five and HEXACO scales are the result of factor analysis of the set of human personality traits that an individual generally utilises to describe him/herself or others (Ashton et al., 2004; Das, Guin, & Datta, 2012).

Unlike the lexical approach of the Big Five or HEXACO, Aaker (1997) selected a set of 309 personality descriptor candidates generated from several sources, such as a series of human personality scales (e.g., Big Five model), personality measurements utilised by academics and practitioners, and original qualitative research. As a result, Aaker's (1997) scale includes not only human personality traits but also non-human personality traits, such as small-town, corporate, successful, good looking, western, and glamorous. According to the lexical approach, these non-human personality traits should be excluded because inappropriately selected variables might distort the factor structure (Ashton & Lee, 2005b). However, numerous brand personality studies in the marketing literature are also based on Aaker's (1997) framework or definition (Braunstein & Ross, 2010; Keller, 2008; Lee & Cho, 2012; Ross, 2008). As a result, previous studies following the methodological foundation of Aaker's (1997) have also included items that are not properly human personality traits (Avis, 2012). The broad definition of brand personality – 'the set of human characteristics associated with a brand' – may embrace several other characteristics (e.g., age, social class, physical facet, culture, temporal user characteristics) beyond brand personality traits (Azoulay & Kapferer, 2003; Geuens et al., 2009; Keller, 2008). Therefore, Aaker's (1997) definition may provide brand managers or brand personality researchers with ambiguous information on brand personality (Geuens et al., 2009). Moreover, it is possible that some respondents may understand the meaning of brand personality in different ways because of Aaker's (1997) broad definition (Austin et al., 2003).

Azoulay and Kapferer (2003) posit that Aaker's (1997) definition of "brand personality encompasses dimensions conceptually distinct from the pure concept of personality" (p. 151). Azoulay and Kapferer restrict the use of the brand personality concept and define brand personality as "the unique set of human personality traits both applicable and relevant to brands" (p. 153). According to Churchill (1979), the importance of defining the construct thoroughly cannot be overestimated and is a critical first step; "the process of developing better measures involves specifying the domain of the construct" (p. 67). Churchill suggests that "the researcher must be exacting in delineating what is included in the definition and what is excluded" (p. 67). Given its clarity in the conception of brand personality, the current study adopted the conceptual definition of brand personality by Azoulay and Kapferer and the lexical approach in the study of personality structure. This methodological foundation necessitates steps identifying a representative set of human personality traits that are both applicable to and relevant for sport brands (Bosnjak, Bochmann, & Hufschmidt, 2007).

### 2.2. Brand personality dimensions versus human personality dimensions

"Does it (brand personality) have a framework or set of dimensions of human personality?" (Aaker, 1997, p. 347). Although Epstein (1977) indicated that human personality traits might have a similar conceptualisation with that of brand personality, Aaker (1997) found that the dimensions of human personality and brand personality are different. Aaker identified two different brand personality dimensions (i.e., Ruggedness and Sophistication) as an independent set of brand personality traits from the Big Five dimensions. Those two dimensions (i.e., Ruggedness, Sophistication) are not related to

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any of the Big Five dimensions and are a unique set of dimensions of brand personality (Aaker, 1997). Aaker argues that "this pattern suggests that brand personality dimensions might operate in different ways or influence consumer preference for different reasons" (p. 354). Brand personality dimensions may be formed through the direct or indirect interactions between consumer and brand, whereas human personality dimensions might be generated based on an individual's attitudes, behaviours, and beliefs (Lee & Cho, 2009).

Sport brand personality researchers have also found different brand personality dimensions from the Big Five structure or HEXACO dimensions (see Table 1) (d'Astous & Lévesque, 2003; Geuens et al., 2009). Previous sport brand personality research has generated different brand personality models in which there are many variations on dimensions and items (Avis, 2012; Schade et al., 2014). For example, Braunstein and Ross (2010), Heere (2010), Tsiotsou (2012), and Lee and Cho (2012) more or less replicate Aaker's (1997) brand personality dimensions. None of this previous research on sport brand personality replicated the Big Five structure or HEXACO dimensions (Braunstein & Ross, 2010; Heere, 2010; Lee & Cho, 2012; Ross, 2008; Schade et al., 2014; Tsiotsou, 2012). In fact, previous sport brand personality studies include numerous non-human personality traits in the scales, such as success, high-performance, capable, quality, community driven, and corporate (Braunstein & Ross, 2010). For example, Lee and Cho's (2012) study contains non-personality traits, such as big, built/in-shape, cultural, collegiate, physical, muscular, timeless, interesting, or fun. This is not too surprising because most studies on sport brand personality are based on Aaker's (1997) framework, definition, or scale. Even though Tsiotsou (2012) posits that the sport team personality scale, called SPORTEAPE was developed based on the restricted operational definition provided by Azoulay and Kapferer (2003), the SPORTEAPE includes both non-personality traits in the scale (such as successful, winning, triumphant, multitudinous, glorious, great, honorary, and wealthy) as well as human personality traits (such as proud, ambitious, dynamic, ethical, traditional, and uncompromising). In addition, Schade et al. (2014) adopted Azoulay and Kapferer's (2003) definition and developed a sport club brand personality scale, called the sport club brand personality scale (SCBPS). The SCBPS also includes a non-personality trait, such as 'alternative' in the Rebellious dimension, among 17 items in the scale. Another potential limitation is related to the generalisability of the scales. Schade et al. (2014) did not assess the generalisability of the SCBPS for the individual brands (i.e., individual professional sport clubs) that they selected in the study. The SCBPS is developed on data at the respondent level for the chosen sets of brands (e.g., FC St. Pauli, Bayer Leverkusen, Union Berlin, TBV Lemgo, Kölner Haie, ALBA Berlin) from different types of sports (e.g., soccer, handball, basketball, and ice hockey). Even though Schade et al. (2014, p. 658) argue that "the SCBPS should not be the mirror face of the type of sport" because the scale is "statistically verified based on eta squared", it would be beneficial to assess the framework for individual brands within a type of sport (for between-subject and between-brand within category comparisons) and for single brands at the respondent level (for between-respondent analyses) (Austin et al., 2003; Geuens et al., 2009). In addition, in contrast to the lexical approach, Schade et al. (2014) eliminated 21 non-personality items

**Table 1**
Resemblance of sport brand personality dimensions to the Big Five dimensions/HEXACO.

| Author(s) | Big Five-like dimensions or traits | HEXACO-like dimensions or traits | Other dimensions or (non-personality) traits |
|---|---|---|---|
| Aaker (1997) | Sincerity (e.g., down-to earth, honest, cheerful) (A, C, and X), Excitement (e.g., daring, spirited, imaginative) (X–O), Competence (e.g., reliable, intelligent) (A, C, and O), Ruggedness (e.g., masculine, tough, rugged) (E) | Sincerity (H–X), Excitement (X–O), Competence (H–O), Ruggedness (E) | Sophistication (OD) (e.g., upper class (NT), glamorous (NT), good looking (NT), charming (NT) |
| Ross (2008) | Sincerity (A, C, and X), Excitement (X–O), Competence (A, C, and O), Ruggedness (E) | Sincerity (H–X), Excitement (X–O), Competence (H–O), Ruggedness (E) | Sophistication (OD) |
| Braunstein and Ross (2010) | Sincerity (e.g., down-to-earth, honest, sincere) (A–C) Rugged (e.g., bold, daring, rugged) (X–E) | Sincerity (H), Rugged (X) | Success (NT), Sophistication (OD), Community-driven (NT), Classic (NT) |
| Heere (2010) | Competitive (C), Exciting (E), Dynamic (X), Passionate (X), Proud (C), Accessible (A), Warm (A), Cool (E) | Competitive (C), Exciting (E), Dynamic (X), Passionate (X), Proud (C), Accessible (A), Warm (A), Cool (X) | Professional (NT), Attractive (NT) |
| Lee and Cho (2012) | Diligence (C), Uninhibitedness (X), Tradition (O) | Diligence (C), Uninhibitedness (X), Tradition (O) | Fit (NT), Amusement (NT) |
| Tsiotsou (2012) | Competitiveness (e.g., proud, ambitious, dynamic) (C–X), Morality (e.g., principled) (A) | Competitiveness (C–X), Morality (A) | Prestige (NT), Authenticity (NT), Credibility (NT) |
| Schade et al. (2014) | Extraversion (A, C, and X), Rebellious (C, E, and O), Open-Mindedness (A, C, and O), Conscientiousness (C–E) | Extraversion (A, C, H, and X), Rebellious (C, E, and O), Open-Mindedness (A, C, and O), Conscientiousness (C–E) | Alternative (NT), Sophisticated (OD) |

*Note.* Letters between parentheses in the second column refer to the Big Five dimensions (Geuens et al., 2009): X = Extraversion, A = Agreeableness, C = Conscientiousness, E = Emotional Stability and O = Openness. Letters between parentheses in the third column refer to the HEXACO dimensions (Geuens et al., 2009): H = Honesty/Humility, E = Emotionality, X = eXtraversion, A = Agreeableness, C = Conscientiousness and O = Openness to Experience. Letters between parentheses in the third column refer to the other dimensions or non-personality traits: OD = Other Dimensions, NT = Non-personality Traits.

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and 58 inappropriate traits through expert interviews from 105 items generated by the literature review, the content analysis, and expert interviews. However, the strategy has shortcoming that experts may "select variables in such a way that certain aspects of the personality domain are over- or under- represented, leading to a distorted factor-analytic result" (Ashton & Lee, 2005b, p. 11).

In sum, extant literature reveals a lack of consensus among previous brand personality studies in sport. Two possible conceptual and methodological reasons for this lack of consensus are identified in the present study. The current study opines that the lack of consensus between dimensions of the two constructs (i.e., human personality, brand personality) may be due to Aaker's definition. Aaker's (1997) broad definition could cause convergent or discriminant validity problems and provide brand managers or brand personality researchers with ambiguous information on brand personality (Azoulay & Kapferer, 2003; Geuens et al., 2009). A second reason for non-resemblance between human personality dimensions and those of brand personality may result from the lack of a theoretical foundation in sport brand personality studies. Although the lexical approach has been generally accepted as providing a theoretical basis for obtaining a set of representative personality traits when developing the major personality dimensions, there is a lack of application of the lexical approach to identify a variety of personality traits for finding sport brand personality dimensions (Ashton & Lee, 2005b; Avis, 2012; Milas & Mlačić, 2007).

Since consumers routinely describe a brand using human personality traits, the lexical approach to the study of personality structure may provide a theoretical foundation to identify the major dimensions of brand personality. Both the Big Five and HEXACO scales are the result of factor analysis based on the lexical approach. Previous brand personality studies were built upon the Big Five human personality structure in psychology (McCrae & Costa, 1997). Given the important role of the Big Five in brand personality (Sweeney & Brandon, 2006), the HEXACO model needs to be critically examined because the model may also play an important role in developing a fundamental framework in brand personality research (Lee & Ashton, 2006; Milas & Mlačić, 2007). The HEXACO model produces a separate factor (i.e., Honesty–Humility) from the Big Five model and this human personality dimension may provide better prediction of the Sincerity factor in brand personality (Aaker, 1997; Ashton & Lee, 2005a). Based on the lexical approach and its application to identifying a brand personality structure in sport, this study proposes that brand personality dimensions are similar to the Big-Five or HEXACO structure.

Drawn from the literature and theoretical background reviewed above, the research question for this study is as follows: Does a newly developed sport brand personality scale have a set of dimensions/framework of personality different from or similar to the HEXACO dimensions of human personality or those of the Big Five dimensions?

## 3. Methodology

### 3.1. Generation of brand personality items

In the first step of generating an initial set of brand personality items, a set of 360 brand personality items including both non-personality traits and human personality traits were identified from previous brand personality studies in order to obtain an extensive list of human personality traits (Aaker, 1997; Braunstein & Ross, 2010; Geuens et al., 2009; Heere, 2010; Lee & Cho, 2012; Ross, 2008; Tsiotsou, 2012). According to the lexical approach in personality psychology, all non-human personality traits, such as temporary states, physical states, or social evaluation terms were excluded from the initial set of brand personality items (Allport & Odbert, 1936; Norman, 1967). For example, Aaker's scale has 42 brand personality items. However, 17 traits (e.g., exciting, good looking, small-town, successful, unique, upper class, young) were excluded because those items describe highly temporary states (e.g., exciting), physical characteristics (e.g., young, good looking, small-town), or highly evaluative judgments (e.g., successful, upper class, unique). Based on these criteria, a set of 105 human personality traits both applicable and relevant to sport brands was generated from previous brand personality studies after eliminating redundant human personality traits.

In the second step, to reduce the initial pool of 105 human personality traits to a more manageable number ($N = 36$), the current study made use of an expert panel consisting of three sport management faculty members and one educational psychology scholar who assessed the traits. The lexical approach provides a rationale for selecting a set of representative personality traits to identify each of the major dimensions of brand personality (Ashton & Lee, 2005b). Therefore, using a brand personality scale rubric, experts were asked to indicate how relevant they felt each trait to be for the six dimensions (i.e., honesty, emotionality, extraversion, agreeableness, conscientiousness, openness) by typing an "X" in either the "Highly relevant", "Mostly relevant", or "Low relevance or no relevance" columns. Human personality traits were sorted in hierarchical ordering based on the ratings of the expert panel. Six human personality traits in each dimension were selected from the process. For example, the initial rubric included a set of nine human personality traits for the Openness dimension (see Table 2). However, six human personality traits (creative, flexible, imaginative, innovative, original, and reflective) were selected based on the experts' rating scores.

This procedure generated 36 personality traits in total, which included six human personality traits for each of the six dimensions.

### 3.2. Selection of a sport brand

One of the major criticisms regarding the analysis of data aggregated across respondents for diverse brands from different categories is related to the non-generalisability of Aaker's (1997) framework (Austin et al., 2003). The analysis of the

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**Table 2**
Results of expert panel's ratings on Openness dimension.

| Dimension | Human personality traits | Highly relevant | Mostly relevant | Low relevant or no relevant |
|---|---|---|---|---|
| Openness | Creative | 3/4 | | 1/4 |
| | Flexible | 4/4 | | |
| | Imaginative | 4/4 | | |
| | Innovative | 3/4 | 1/4 | |
| | Intelligent | | 2/4 | 2/4 |
| | Intense | | 1/4 | 3/4 |
| | Original | 1/4 | 1/4 | 2/4 |
| | Penetrative | | 1/4 | 3/4 |
| | Reflective | 2/4 | | 2/4 |

aggregated data removes all within-brand variance (Austin et al., 2003). In other words, the factor analysis results of Aaker's (1997) study are exclusively based on between-brand variance (Austin et al., 2003; Geuens et al., 2009). As a result, Aaker's framework does not seem to generalise when measuring the individual brands' personality within a specific product or service category (e.g., restaurants, sport) (Austin et al., 2003; Geuens et al., 2009; Ross, 2008). It can be argued that between-brand structure is needed to identify many brand personality dimensions as possible because within-brand structure, such as ratings of a single brand may produce lower variance (Huang, Mitchell, & Rosenaum-Elliott, 2012; Milas & Mlačić, 2007). However, there is no underlying theoretical explanation and justification that might support this argument. In fact, it is entirely possible that factor analyses of brand personality of a single brand would produce brand personality dimensions that correspond closely to the structure of human personality, such as the Big Five or HEXACO (Ashton & Lee, 2005a, 2005b). Just as each individual may have many different perspectives about the personality of a single individual, each consumer may see the same brand differently and potentially have divergent perceptions about the brand personality of the brand (Huang et al., 2012; Milas & Mlačić, 2007). For the purpose of this study, a sport brand × subject structure was utilised to find major sport brand personality dimensions. As a representative brand in sport, the National Football League (NFL) was chosen as the focus for this study for several reasons. Although brand personality research has utilised well-known brands for scale development, if consumers do not have any close relationship with the brand or diverse brand experience, they may ambiguously describe brand personality variation in terms of the brands. Concerning the likeability, familiarity, and media exposure, the college students ranked football, the NFL, and the Super Bowl at the highest index scores for the types of sport, sport leagues, and single events respectively (Lee & Cho, 2012). In order for respondents to describe as many personality dimensions as possible in detail, the brand should be familiar, relevant, and meaningful to the subjects. The NFL fulfils these criteria.

Using a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree), respondents rated how relevant and applicable the 36 human personality traits were to the NFL brand. The items included: (a) Honesty (i.e., dependable, ethical, fair-minded, integrity, respectful, and sincere); (b) Emotionality (i.e., emotional, fearless, ruthless, sentimental, stable, and tense); (c) Extraversion (i.e., adventurous, daring, dynamic, enthusiastic, friendly, and lively); (d) Agreeableness (i.e., aggressive, civil, considerate, courteous, generous, and tolerant); Conscientiousness (i.e., consistent, dedicated, disciplined, hard-working, leadable, and persistent); and (f) Openness to Experience (i.e., creative, flexible, imaginative, innovative, original, and reflective).

### 3.3. Participants and procedures

Even though the use of students may inhibit the generalisation of the finding to the entire population, given the usefulness of student samples in developing scale measures, previous brand personality studies have widely utilised convenience samples of undergraduate students (Austin et al., 2003; Braunstein & Ross, 2010; Carlson, Donavan, & Cumiskey, 2009; Diamantopoulos, Smith, & Grime, 2005; Freling & Forbes, 2005; Huang et al., 2012; Lee & Cho, 2012; Milas & Mlačić, 2007; Musante et al., 1999; Parker, 2009; Ross, 2008; Wee, 2004). Thus, based on this precedent and using a web-based survey tool (Qualtrics), data were collected from students who were enrolled in two sport management and kinesiology classes at a large, Southwestern university in the U.S. Due to college students' likeability, familiarity, and media exposure to the NFL, student subjects may be enabled to provide reliable and valid responses to the questionnaire (Lee & Cho, 2012; Yoo & Donthu, 2001). It is appropriate to assume that sport management or kinesiology major students may possess a certain level of intimate knowledge and experience of the selected brand (i.e., NFL). Students are also appropriate research subjects because they are an important market segment of the NFL (Akcay, Sun, & Chen, 2013; Ross, 2008; Seo & Green, 2007). For example, 78.6 percent of respondents were White American in the present study. This demographic may be a major consumer segment for the NFL because the racial majority group of NFL fans is White American, representing 77 percent of the total NFL viewers during the 2013 NFL regular season (Scibetti, 2014). In addition, relatively homogeneous samples are desired to minimise the variance from other factors, such as age, culture, and income (Huang et al., 2012), and a student sample provides this homogeneity.

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In terms of sample size in factor analysis, it is recommended to have a ratio of at least five respondents for each variable to be analysed (Hair, Black, Babin, Anderson, & Tatham, 2006). Therefore, the minimum target number of respondents for 36 human personality traits is 180. An email invitation containing the link to the survey webpage was sent to 250 students who were enrolled in a Sport Management class. The response rate was 78.4% ($N = 196$). The sample size of 196 met the critical sample size of 180 for an exploratory factor analysis (EFA) and was utilised for the principal axis factor analysis. In addition, an email invitation was sent to 242 students who were enrolled in a Kinesiology class. One hundred fifty-five usable questionnaires were obtained for a response rate of 64.1% ($N = 155$). Even though the second data set did not meet the critical sample size of 180 for an EFA, the data could be used for a confirmatory factor analysis (CFA) if the number of variables is less than 31. Eight variables were removed from 36 variables through the EFA so that the second data set was used for the CFA. The total sample consisted of 351 undergraduate students; 174 females (49.6%) and 177 males (50.4%). The sample was mostly White Americans ($N = 276$, 78.6%) and the mean age of the sample was 21.5 years (SD = 1.55).

### 3.4. Data analysis

Data were analysed using SPSS Statistics 20.0. The 36 human personality traits were submitted to a principal axis factor analysis. An EFA was performed through principal axis factor analysis with Oblimin rotation in order to generate a factor structure of sport brand personality. Bollen (1989) defined construct validity as a way to "assess whether a measure relates to other observed variables in a way that is consistent with theoretically derived predictions" (p. 181). Cui and Berg (1991) argued that "although exploratory factor analysis is appropriate in the developing stage of a construct, confirmatory factor analysis is considered more adequate when assessing the validity of the developed construct" (p. 233). Therefore, a confirmatory factor analysis (CFA) was performed through AMOS 20.0 to examine construct reliability (convergent validity and discriminant validity) of the newly developed sport brand personality model (Hair et al., 2006). Several indices were used to measure the fit of the model to the data, including chi-square with related degrees of freedom (*df*), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) with its 90% confidence interval (Hair et al., 2006).

## 4. Results

### 4.1. Exploratory factor analysis

The Bartlett's Test of Sphericity (BTS) was significant ($p < .05$) and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was .900 (>0.6) (Tabachnick & Fidell, 2007). According to the KMO and BTS results, the data satisfied the criteria for factor analysis. An EFA was performed through principal axis factor analysis with Oblimin rotation in order to generate a factor structure of sport brand personality that has the most appropriate number of sport brand personality dimensions. The 36 brand personality traits were submitted to the principal axis factor analysis on the first data set ($N = 196$) using SPSS. Seven items (i.e., consistent, dedicated, flexible, lively, sentimental, stable, tolerant) were eliminated due to significant cross-loadings and one item (i.e., emotional) was removed because the factor loading was less than .40 (Nunnally & Bernstein, 1994). The first six eigenvalues were 10.170, 3.453, 1.972, 1.341, 1.321, and 0.867. There was a substantial drop in eigenvalues between the five and six factors in the scree plot. The principal axis factor analysis identified a clear simple factor structure that had five factors with eigenvalues exceeding 1 (Table 3). The five factors collectively explained 65.20% of the total variance.

The first factor was labelled Agreeableness and accounted for 36.32% of the variance. This factor consisted of six personality traits (i.e., courteous, considerate, generous, friendly, civil, and agreeable). The internal-consistency reliability of Agreeableness was .88. The second factor was labelled Extraversion/Emotionality and accounted for 12.33% of the variance. This factor contained eight personality traits (i.e., fearless, daring, ruthless, enthusiastic, adventurous, dynamic, tense, and emotional). The Cronbach's alpha for the second factor was .85. The third factor included five personality traits (i.e., imaginative, innovative, creative, original, and reflective) and was labelled Openness and accounted for 7.04% of the variance. The reliability of Openness was .90. The fourth factor was labelled Conscientiousness and accounted for 4.79% of the variance. This factor consisted of four personality traits (i.e., persistent, hard-working, leadable, and disciplined). The internal-consistency reliability of Conscientiousness was .83. The fifth factor was labelled Honesty and accounted for 4.72% of the variance. This factor comprised six personality traits (i.e., integrity, respectful, fair-minded, ethical, sincere, and dependable). The Cronbach's alpha for Honesty was .88. Although the five-factor solution resembled the HEXACO structure, the results showed that two dimensions (i.e., Extraversion and Emotionality) were combined within a factor. The size of the corresponding factor loadings exceeded an absolute value of .40, ranging from .426 to .912.

### 4.2. Confirmatory factor analysis

Before conducting the CFA, univariate normality was assessed in the second data set ($N = 155$) using SPSS 20.0. Skewness ranged from −.04 to −1.07, and kurtosis ranged from −.71 to 1.16. The results showed that all 28 variables met the threshold recommended by Stevens (2002) for univariate normality. To confirm the structure of the identified five factor model, a CFA was performed on the second data set using AMOS 20.0. The results of the CFA are presented in Table 4. When the five factors with 28 items were entered in the analysis, the five factor model (Model 1) demonstrated a mediocre fit to the data

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**Table 3**
Factor loadings for principal axis factoring and five dimensions using Oblimin rotations.

| Item/factor | (1) A | (2) X/E | (3) O | (4) C | (5) H | Mean | SD |
|---|---|---|---|---|---|---|---|
| Courteous | **.912** | | | | | 4.33 | 1.43 |
| Considerate | **.669** | | | | | 4.24 | 1.41 |
| Generous | **.656** | | | | | 4.60 | 1.45 |
| Friendly | **.662** | | | | | 4.84 | 1.42 |
| Civil | **.598** | | | | | 4.51 | 1.32 |
| Agreeable | **.519** | | | | | 4.65 | 1.21 |
| Fearless | | **.737** | | | | 5.69 | 1.28 |
| Daring | | **.764** | | | | 5.56 | 1.36 |
| Ruthless | | **.689** | | | | 5.29 | 1.43 |
| Enthusiastic | | **.560** | | | | 6.12 | 1.00 |
| Adventurous | | **.559** | | | | 5.46 | 1.30 |
| Dynamic | | **.478** | | | | 5.70 | 1.15 |
| Tense | | **.426** | | | | 5.45 | 1.26 |
| Imaginative | | | **−.872** | | | 4.66 | 1.49 |
| Innovative | | | **−.823** | | | 4.85 | 1.44 |
| Creative | | | **−.823** | | | 4.73 | 1.41 |
| Original | | | **−.638** | | | 5.07 | 1.37 |
| Reflective | | | **−.566** | | | 4.69 | 1.34 |
| Persistent | | | | **−.855** | | 5.64 | 1.11 |
| Hard-working | | | | **−.751** | | 5.97 | 1.07 |
| Leadable | | | | **−.721** | | 5.53 | 1.25 |
| Disciplined | | | | **−.494** | | 5.59 | 1.36 |
| Integrity | | | | | **−.826** | 4.87 | 1.41 |
| Respectful | | | | | **−.725** | 4.92 | 1.37 |
| Fair-minded | | | | | **−.687** | 4.81 | 1.31 |
| Ethical | | | | | **−.651** | 4.34 | 1.47 |
| Sincere | | | | | **−.607** | 4.44 | 1.50 |
| Dependable | | | | | **−.486** | 5.13 | 1.41 |
| Eigenvalue | 10.170 | 3.453 | 1.972 | 1.341 | 1.321 | | |
| % of variance | 36.320 | 12.331 | 7.041 | 4.790 | 4.719 | | |
| Cronbach's alpha | .88 | .85 | .90 | .83 | .88 | | |

*Note*. Extraction method: principal axis factoring; rotation method: Oblimin with Kaiser normalisation. $N = 196$. A = Agreeableness, X/E = Extraversion/Emotionality, O = Openness, C = Conscientiousness, or H = Honesty.

**Table 4**
Results of model fit comparison between Model 1 and Model 2.

| Model | $\chi^2(df)$ | $\chi^2/df$ ratio | AGFI | NNFI | CFI | RMSEA | SRMR |
|---|---|---|---|---|---|---|---|
| Model 1 | 706.990 (340) | 2.079 | .725 | .848 | .864 | .084 | .084 |
| Model 2 | 491.991 (265) | 1.857 | .765 | .896 | .908 | .075 | .067 |

(($\chi^2(df) = 706.990(340)$, $\chi^2/df$ ratio = 2.079, $p < .001$; AGFI = .725; NNFI = .848; CFI = .864; RMSEA = .084; SRMR = .084) based on the suggested threshold (Hair et al., 2006). The model fit suggested a need for re-specification.

According to Hair et al. (2006), a factor loading should be equal to or higher than .50, and ideally equal to or higher than .70, however, five items (i.e., ruthless (.470), tense (.418), original (.684), friendly (.615), agreeable (.498)) were below .70. After statistical and theoretical consideration for justification, two items (i.e., original, friendly) were retained. Specifically, the friendly item shifted from Extraversion to Agreeableness. Even though the item was below the suggested cut-off, it can be interpreted in a way similar to the Big Five studies of human personality or the HEXACO. However, ruthless, tense, and agreeable items were removed because the factor loadings were significantly below the cut-off value (i.e., ≥.70) (Hair et al., 2006; Tabachnick & Fidell, 2007). The revised second model showed an acceptable fit to the data: (S − B $\chi^2/df$ ratio (491.991/265 = 1.857); AGFI = .765; NNFI = .896; CFI = .908; RMSEA = .075; SRMR = .067). The chi-square difference test revealed that the revised model had a significantly better fit to the data than did the first model: $\Delta\chi^2 = 214.999$, $\Delta df = 75$, $p < .001$.

### 4.3. Construct reliability

Construct reliability is defined as the "measure of reliability and internal consistency of the measured variables representing a latent construct" (Hair et al., 2006, p. 771). To measure construct reliability, the composite reliabilities were calculated (Table 5). The composite reliabilities ranged from .860 to .903. The construct reliabilities were .871 for Agreeableness, .872 for Extraversion/Emotionality, .895 for Openness, .860 for Conscientiousness, and .903 for Honesty. All composite reliabilities exceeded .70 and indicated that the model has good reliability (Hair et al., 2006). Hair et al. (2006)

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**Table 5**
Factor loadings ($\beta$), standard error (SE), construct reliability (CR), average variance explained values (AVE) for the constructs, and maximum squared variance (MSV).

| Item | $\beta$ | SE | CR | AVE | MSV |
|---|---|---|---|---|---|
| Agreeableness | | | .871 | .579 | .464 |
| Courteous | 0.878 | | | | |
| Considerate | 0.833 | .074 | | | |
| Generous | 0.731 | .084 | | | |
| Civil | 0.729 | .079 | | | |
| Friendly | 0.605 | .097 | | | |
| Extraversion/emotionality | | | .872 | .577 | .602 |
| Adventurous | 0.716 | | | | |
| Fearless | 0.695 | .112 | | | |
| Daring | 0.781 | .098 | | | |
| Enthusiastic | 0.808 | .098 | | | |
| Dynamic | 0.792 | .107 | | | |
| Openness | | | .895 | .632 | .450 |
| Innovative | 0.886 | | | | |
| Imaginative | 0.891 | .062 | | | |
| Creative | 0.756 | .070 | | | |
| Original | 0.685 | .078 | | | |
| Reflective | 0.736 | .069 | | | |
| Conscientiousness | | | .860 | .607 | .602 |
| Discipline | 0.778 | | | | |
| Persistent | 0.751 | .087 | | | |
| Leadable | 0.730 | .098 | | | |
| Hard-working | 0.852 | .086 | | | |
| Honesty | | | .903 | .610 | .464 |
| Respectful | 0.858 | | | | |
| Integrity | 0.872 | .068 | | | |
| Fair-minded | 0.764 | .072 | | | |
| Ethical | 0.723 | .080 | | | |
| Sincere | 0.720 | .078 | | | |
| Dependable | 0.734 | .078 | | | |

*Note*. Threshold of reliability: composite reliability (CR) > .70 (Hair et al., 2006); threshold of convergent validity: CR > average variance extracted (AVE), AVE > .50; threshold of discriminant validity: maximum squared variance (MSV) < AVE (Hair et al., 2006).

stated that "high construct reliability indicates that internal consistency exists, meaning that the measures all consistently represent the same latent construct" (p. 778).

### 4.4. Convergent and discriminant validity

Construct validity of the five-factor model was examined based on the threshold suggested by Hair et al. (2006). The results indicated that standardised loading estimates of three items (i.e., friendly, fearless, original) were slightly lower than .70 among 25 items (Table 5). The average variance extracted (AVE) values of each of all factors were greater than .50. Construct reliabilities of all five factors were higher than .70, which indicates adequate convergent or internal consistency (Hair et al., 2006). Concerning the discriminant validity, all interfactor correlations were below .85, ranging from .180 (between Agreeableness and Conscientiousness) to .776 (between Extraversion/Emotionality and Conscientiousness). The threshold of more stringent discriminant validity test is that the AVE estimates for two factors should be greater than the squared correlation estimates between two factors (Hair et al., 2006). Although the AVE value (.577) for Extraversion/Emotionality was less than the Maximum Squared Variance (MSV) for the dimension (see Table 5), the other four factors met the suggested threshold of the discriminant validity test, indicating excellent discriminant validity in the model (Hair et al., 2006).

## 5. Discussion

With regards to the research question, it was found that the newly developed sport brand personality scale is similar to both the HEXACO dimensions of human personality and those of the Big Five dimensions. The results indicate that a sport brand (i.e., NFL) has similar personality dimensions as humans. The identified five dimensions of sport brand personality closely resemble the structure of human personality models (i.e., the Big Five model, HEXACO model). Items like courteous, considerate, generous, civil, and agreeable loaded on Agreeableness (Boies, Lee, Ashton, Pascal, & Nicol, 2001; Geuens et al., 2009; Goldberg, 1990). Items like imaginative, innovative, creative, original, and reflective loaded on Openness. Conscientiousness consisted of four items; persistent, hard-working, leadable, and disciplined. An interesting result is that the Honesty factor emerged as a brand personality dimension. Items such as integrity, respectful, fair-minded, ethical, sincere, and dependable loaded high on the Honesty dimension. Two different human personality dimensions (i.e., Extraversion and Emotionality) among five dimensions of the Big Five were combined within a dimension in the study. Although the factor has

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good reliability, there were some construct validity problems. It is possible that unique (specific) variance exists between those two dimensions (i.e., Extraversion and Emotionality). The specific variance is defined as the "variance of each variable unique to that variable and not explained or associated with other variables in the factor analysis" (Hair et al., 2006, p. 103). Hair et al. stated that "this variance cannot be explained by the correlations to the other variables but is still associated uniquely with a single variable" (p. 117). One suggestion for future research would be to investigate the unique variance that is not explained by any factors in the model (Hair et al., 2006). In addition, it is possible that closely relevant personality traits between those two dimensions were included in the factor analysis. Because only six traits for each personality dimension were selected for the EFA, when conducting a factor analysis, other personality traits related to the two dimensions (i.e., Extraversion and Emotionality) should be included in future research.

In sum, this study contributes to the literature by (a) reexamining personality trait theory (i.e., lexical approach) by returning to the fundamental brand personality concept; (b) recognising that defining the brand personality construct thoroughly can be a fundamental step in the process of developing a sport brand personality instrument; (c) developing a reliable and valid instrument that has five dimensional factors based on the restricted brand personality definition; and (d) providing crucial information for brand managers or marketers to initiate effective positioning and advertising strategies. The findings of this research may not only provide brand personality researchers with a conceptual and methodological foundation when developing brand personality instruments but also offer sport marketers and brand managers in the sport industry several practical implications (discussed below).

### 5.1. Theoretical implications (contributions)

This study makes several important theoretical contributions to the literature on brand personality. First, defining the brand personality construct thoroughly can be an important step in the process of developing a sport brand personality instrument (Churchill, 1979). When developing an instrument for measuring a construct, the construct should be represented accurately. This study found that the Aaker's (1997) definition of brand personality may embrace several other constructs (e.g., brand image, brand identity) beyond brand personality. For example, although the term 'personality' in psychology has a very definite meaning, Aaker's definition of brand personality might lead to construct validity problems because the definition might include other non-human personality trait items beyond brand personality itself (Azoulay & Kapferer, 2003; Geuens et al., 2009). Without having a restricted definition of the construct, researchers may include other constructs beyond the construct that they really want to measure. If this is this case, there may be severe construct validity problems in the scale.

In addition, this study is the first to explore the application of the HEXACO model for identifying brand personality dimensions in sport. The HEXACO model has distinguished a separate factor (i.e., Honesty) from the Big Five model. The Honesty dimension is of importance because of its ability to identify integrity-related characteristics in an organisational setting (Lee, Ashton, Morrison, Cordery, & Dunlop, 2008). Previous research has indicated the predictive advantage of the HEXACO model over the Big Five in predicting organisational integrity variables (Lee et al., 2008). Even though the Honesty factor has been considered one of the most desirable characteristics in organisational contexts, few brand personality studies have assessed the dimension. The issue of not identifying the Honesty factor in previous research may be explained in terms of failing to obtain an exhaustive or representative set of brand personality traits (Ashton & Lee, 2005b). Previous research has indicated that the lexical approach provides a rationale for selecting a plausible set of personality traits that represent major dimensions of personality (Ashton & Lee, 2005b; Ashton et al., 2004). Both the Five-Factor Model and HEXACO model were derived from the results of a lexical hypothesis, which suggests that the personality differences tend to become encoded in descriptive adjectives of natural language (Ashton & Lee, 2005b). Personality studies have followed the rationale of the lexical approach by including only human personality traits that are plausible descriptors of personality (Ashton & Lee, 2005b, 2007). Terms that describe temporal states, evaluative judgments, physical characteristics, or abilities are excluded in the selection of personality traits.

Based on the lexical approach for identifying unique personality traits that represent the major brand personality dimensions, the present study identified a set of personality traits both applicable and relevant to sport brands that represent each of the major dimensions of HEXACO model by excluding non-personality terms (e.g., age, social class, physical facet, culture, temporal user characteristics) that are not applicable descriptors of brand personality. Additionally, the current study identified five brand personality dimensions (i.e., Agreeableness, Extraversion/Emotionality, Openness, Conscientiousness, and Honesty) via factor analysis. Consequently, this study identified that the lexical approach in personality psychology can be a fundamental theoretical base for the study of brand personality. Since brands, like persons, can generally be described with human personality traits, the lexical approach in psychology is appropriate to identify human personality traits both relevant and applicable to brands (Azoulay & Kapferer, 2003; Caprara et al., 2001). Based on the lexical approach or lexical hypothesis, the current study showed that personalities of brands are more likely to become encoded in human personality traits both relevant and applicable to sport brands. As a result, this study identified that the newly developed sport brand personality scale is similar to dimensions of human personality scales (i.e., HEXACO, Big Five).

### 5.2. Marketing implications

Brand personality enables marketers to effectively communicate with their consumers about the brands as well as build strong relationships (Diamantopoulos et al., 2005). Diamantopoulos et al. (2005) argued that "a well-established brand

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personality can result in consumers having stronger emotional ties to the brand and greater trust and loyalty, thus providing an enduring basis for differentiation which is difficult to copy" (p. 129). In addition, brand personality scales could help brand managers understand how their consumers identify and recognise their brands as well as their competitors' brands (Das et al., 2012). Given the importance of brand personality as a marketing tool, sport brand managers and marketers may need a sport brand personality scale in order to measure their brands' personality. Based on the understanding about their brands' personality, practitioners could develop a unique and distinctive sport brand personality from that of competitors (Braunstein & Ross, 2010; Diamantopoulos et al., 2005; Tsiotsou, 2012). In addition, brand marketers and managers in sport organisations could use the information of their brands' personality to develop and promote marketing strategies to effectively attract sport consumers or sponsors in order to survive in the highly competitive sport industry (Tsiotsou, 2012).

More specifically, concerning Agreeableness, this personality dimension may reflect an emphasis on sport organisations' social responsibility (Davies, Chun, & da Silva Roper, 2004). Agreeableness has been related to "a willingness to suspend one's personal interest for the good of one's social group" (Van Der Zee & Wabeke, 2004, p. 247). Previous research has indicated that empathy and social responsibility have a strong relationship with Agreeableness (Van Der Zee & Wabeke, 2004). For example, "agreeable persons are likely to help, being motivated to maintain positive relations with others" (Van Der Zee & Wabeke, 2004, p. 247). Walker and Kent (2009) argued that "having a prosocial agenda means having a powerful marketing tool that can build and shape a company's status, differentiate them in the market, and lead to a company's competitive edge" (p. 761). Sport organisations have provided a number of marketing efforts to address their social concerns (Babiak & Wolfe, 2009). For example, several professional sport leagues in the U.S. (e.g., Major League Baseball (MLB), National Basketball Association (NBA), and NFL) have promoted socially responsible programs to address social concerns, such as the MLB's Greening program, the NBA's Read to Achieve program, and the NFL's Breast Cancer Awareness Month (Babiak & Wolfe, 2009; Walker & Kent, 2009).

Another marketing effort for differentiating brands is related to the Openness dimension (i.e., imaginative, innovative, creative, original, and reflective); "a sport team that is perceived to be imaginative may provide more entertainment value to fans than other teams by calling plays and adopting strategies that are more creative and unique than other teams" (Carlson et al., 2009, p. 379). Carlson et al. (2009) found that the brand personality dimension of Openness positively influenced identification with the sport team. Thus, for a sport team to be highly imaginative could contribute to the sport organisation's distinctiveness from competitors.

Sport brand managers and marketers need to understand how their fans or sponsors assess their brands' personality using the newly developed instrument in the current study. Then, marketing practitioners in sport organisations could determine which brand personality dimensions should be emphasised in order to form a strong relationship with their fans or sponsors (Tsiotsou, 2012). For example, concerning the Honesty dimension, brand managers or marketers in sport organisations could utilise the sport brand personality instrument in order to examine the level of the Honesty dimension in their brands. They could capture the customer's perception of the organisation's honesty and integrity using the new scale. Previous research has indicated that increasing the extent of consumers' perception of the Honesty dimension of brands can positively influence desirable customer behaviours and brand loyalty (Lacey & Kennett-Hensel, 2010; Westberg, Stavros, & Wilson, 2011). Moreover, previous studies have identified that the Honesty dimension can have both a positive or negative effect on sponsorship relationships (Westberg et al., 2011). Although sport organisations that are highly honest could attract sponsors, inappropriate or illegal behaviours perpetrated by athletes who belong to the sport organisation may negatively affect the relationship with their sponsors who highly value the integrity of the sponsee's brands (Westberg et al., 2011; Wilson, Stavros, & Westberg, 2010). Therefore, sport brand managers and marketers may need to maintain and control the level of integrity of their sport organisations (Wakefield, 2007).

## 6. Limitations and future research

There are some limitations associated with the current study. First, only 36 human personality traits were selected as the initial pool of items. The initial set of human personality traits may not encompass enough brand personalities of sport brands. Second, the brand personality of only one sport league (the NFL) was identified and examined. Moreover, data were collected from undergraduate students from one university. Since the NFL is one of the most popular sport leagues in the U.S., it seemed reasonable to select this league in order to examine brand personality for the current study. However, concerning the issue of developing a generalisable brand personality scale across sport brands, using aggregated data across a number of professional sport leagues in the U.S may be beneficial for generalising results beyond only one sport league. In addition, the sample was from one university which has its own culture and traditions. Therefore, the student sample may have relatively homogeneous characteristics. Thus, collecting aggregated data across a number of sport brands from a sample that represents the U.S. population may be beneficial in order to develop a generalisable instrument for measuring brand personality in sport. Third, due to convenience sampling, there was an imbalance in the proportion of genders in the data: 64.5% of group I was female and 62.2% of group II was male. Female and male students might have differed in how they described brand personality. The gender imbalance between group I and group II may have influenced the results of the study. In addition, it is possible that unexamined factors (e.g., team identification, brand loyalty, brand preference) may have influenced the results. For example, subjects who have a high level of team identification with a sport league may have a different perception of the brand personality of the league compared to subjects with low identification. Therefore, future research might consider random sampling and random assignment.

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Finally, although the notion of image congruence has received extensive attention in marketing contexts, few studies have utilised these approaches for examining personality congruence. Personality congruence studies may offer an intuitively valid explanation for understanding sport consumer behaviours. Therefore, the next phase of the research can be aimed at exploring the relationship between sport consumers' personalities and a sport brand personality. For example, the matching effect of personality congruence on consumer behaviour may provide practitioners or researchers with important information in order to develop marketing strategies. In addition, based on previous research in marketing contexts (Parker, 2009; Sirgy, 1986), it is expected that personality congruence may positively affect several predicted variables such as sport fans' brand choice, brand preference, and brand loyalty. Future research may develop a theoretical framework to examine the relationship between the antecedents (i.e., five dimensions of brand personality), moderating variables (e.g., team identification, prior experience) and consequences (e.g., brand choice, brand preference, brand loyalty).

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