Brand Personality Differentiation in Formula One Motor Racing: An Australian View

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This research explores the application of Aaker's (1997) brand personality (BP) construct in the Formula One (F1) motor racing market. It investigates the potential for detecting differences in the BP profiles of four F1 team brands (Ferrari, Williams, B.A.R., Jaguar), whilst also investigating the influence of fan identification and a F1 team's winning performance on BP. Based on survey results from 160 Australian F1 motorsport fans, Aaker's (1997) BP construct was effective in profiling the four F1 team brands and was able to determine significant BP profile differences amongst the F1 team brands. Fan identification and the team's winning performance also had significant BP effects.

Keywords: Brand personality, fan identification

Introduction

In a previous paper (Donahay & Rosenberger 2007), we investigated the effectiveness of image transfer from a Formula One (F1) team to the principal sponsor by measuring the brand-personality (BP) congruency between the team and principal sponsor when affected by the functional congruity of the sponsor brand and F1 team and the team's level of winning performance. In this paper, we revisit the data and specifically assess Aaker's (1997) BP construct as a tool for detecting differences in the BP profiles of four F1 team brands (Ferrari, Williams, B.A.R., Jaguar) as perceived by Australian F1 fans.

By associating with the characteristics of a sporting team, event or well-known athlete, sports sponsorship seeks to increase brand loyalty, create awareness, change or reinforce their image, drive retail or dealer traffic and stimulate sales, trial and usage (Gwinner 1997, Madrigal 2000, Cliffe & Motion 2005, IEG 2006, Woisetschläger 2007, Sirgy, Lee, Johar & Tidwell 2008). By becoming part of a special and personally relevant moment in fans' lives, sponsors' involvement with sports events can broaden and deepen their relationship with their target market (Pons, Mourali & Nyeck 2006, Keller 2008).

F1 is a high-profile sport, with a 100 million global audience for each race (AGP 2007). F1 teams can spend $US350 million a year, facing a constant challenge to raise funding (Hoyle 2006). Sponsorship accounts for 80-85% of an F1 team's income, yet is relatively expensive. Minor F1 sponsorships cost $US1-3 million per year and principal (or title) sponsorships cost £25-£50 million per year for major teams, such as Ferrari (Anonymous 2006a, Anonymous 2006b, Barrand 2006, BBC 2006). The high F1 sponsorship costs and global exposure make it imperative that sponsors match their brand with a suitable F1 team. This will maximise their investments and leverage the potential for the positive brand image and attribute associations fans hold about the team to be transferred to their own brand (Ferrand & Pages 1999, Gwinner & Eaton 1999, Madrigal 2001, Donahay & Rosenberger 2007, Woisetschläger 2007). An area of growing interest is brand personality, which sponsorship can be valuable in building (Aaker 1996, Cornwell, Roy & Steinard 2001).

Brand personality is "the set of human characteristics associated with a brand" (Aaker 1997, p. 347). BP is a strategically important construct that can help firms achieve enduring differentiation and sustainable competitive advantage (Biel 1993, Aaker 1996, Diamantopoulos, Smith & Grime 2005, Freling & Forbes 2005a). However, despite the value of the F1 sponsorship market, little research has examined the extent to which F1 team brands are differentiated on personality dimensions, if at all. This gap is surprising considering that sports sponsorship can be a valuable tool to communicate symbolic brand associations as part of a process to build or change the personality of a sponsor's brand (Aaker 1996, Speed & Thompson 2000, Cornwell, Roy & Steinard 2001, Cliffe & Motion 2005, Sirgy *et al* 2008). Therefore, this paper investigates the potential of Aaker's (1997) BP construct for detecting F1-team BP differences and the extent to which F1 teams have established clear and distinct BPs in an Australian context. This paper also identifies the influence, if any, that a team's winning performance and fan identification may have on F1-team BP perceptions.

The main factors are now briefly discussed (see Donahay & Rosenberger 2007 for more detail). Winning has an impact on marketing outcomes for both the sports team (e.g. increased attendance, team-related merchandise sales, fan identification) and its sponsors (e.g. increased television exposure, receiving the largest share-market returns) (Wann & Branscombe 1990, Quester 1997, Gladden & Milne 1999, Campbell, Aiken & Kent 2004, Pruitt, Cornwell & Clark 2004). Sponsoring a winning motor sport team is also associated with increased television exposure and financial returns, i.e. shareholder wealth gains (Quester 1997, Cornwell, Pruitt & Van Ness 2001, Pruitt, Cornwell & Clark 2004). For sponsors of a poorly performing team, consumers may perceive the sponsorship source(s) to be untrustworthy (Bennett 1999), whilst a team/driver losing and failing to finish is viewed as detrimental to the motor sport sponsor's brand (Petrecca 2001).

Fan identification is the personal commitment, perceived connectedness and emotional involvement spectators have with the sports organisation, where the team's failings and achievements are experienced as one's own (Mael & Ashforth 1992, Hunt, Bristol & Bashaw 1999, Shank 2005). Fan identification is related to team loyalty, improved sponsor recall and recognition, improved attitude toward and satisfaction with sponsors, as well as increased preference for sponsor brands (Sutton *et al* 1997, Madrigal 2000, Gladden & Funk 2001, Madrigal 2001, Dalakas & Levin 2005). This is particularly true for motor sport fans, who can be up to three times more brand loyal than fans of other sports, and who are also known to switch product loyalties to a sponsor's brand and avoid brands that cease sponsoring their team (D'Orio 1997, Performance Research 2000, Petrecca 2001, JMU 2005, Phipps 2005a, Thomaselli 2006).

The remainder of the paper first discusses the use of brand personality to differentiate brands. The methodology is then described, followed by presentation of the BP profiling results. The paper finishes with conclusions, limitations and avenues for future research.

Using Brand Personality to Differentiate Brands

This paper uses Aaker's (1997) conceptualisation of BP, which features five dimensions (Sincerity, Excitement, Competence, Sophistication and Ruggedness), each comprised of a number of individual personality traits. Sincerity represents warmth and acceptance; Excitement represents sociability, energy and activity; Competence represents responsibility, dependability and security; Sophistication represents class and charm; and Ruggedness

represents masculinity and strength. For example, a brand could be characterised as 'modern' or 'old fashioned'. These traits provide self-expressive, symbolic functions for consumers (Aaker 1999), who use the BP as a cue to present a given image (Freling & Forbes 2005a).

The development of a clearly defined BP differentiated from competitors is an important objective of brand management, as consumers often choose brands that have a personality that is consistent with their own self-concept (Aaker 1996, Aaker 1999, Siguaw, Mattilia & Austin 1999, Kressman, Sirgy, Herrman, Huber, Huber & Lee 2006, Keller 2008). With motor sport fans' strong loyalty (D'Orio 1997, Performance Research 2000, Petrecca 2001, JMU 2005, Thomaselli 2006), and sports sponsorship's potential to communicate symbolic brand associations that build or change BP (Speed & Thompson 2000, Cornwell, Roy & Steinard 2001, Cliffe & Motion 2005, Sirgy *et al* 2008), strategically understanding consumers' perceptions of a F1 team's BP can provide sports marketers important insights. This can assist developing brand strategies that build a more favourable BP across stakeholder groups (Aaker 1997, Venable, Rose, Bush & Gilbert 2005).

A strong, favourable BP can provide consumers (i.e. fans) emotional fulfilment, image enhancement, an increased willingness to remain loyal to the brand, to try a new brand or brand extension and to pay premium prices for a brand. BP can be the principle differentiation basis when there is little or no distinction other than the brand (Aaker 1997, Freling & Forbes 2005b, Venable *et al* 2005, Chang & Chieng 2006). A distinctive F1-team BP profile can create brand-complementary sponsorship opportunities to convey specific BP associations (Speed & Thompson 2000, Cornwell, Roy & Steinard 2001, Anonymous 2004, Cliffe & Motion 2005, Phipps 2005b). The sponsor-team fit can positively influence the sponsor's image, attitude toward the sponsor's brand, effectiveness of the brand image-transfer process, increase attention paid to the sponsor and its other promotions, as well as increase intentions to use the sponsor's product (Gwinner & Eaton 1999, Speed & Thompson 2000, Koo, Quarterman & Flynn 2006, Donahay & Rosenberger 2007, Sirgy *et al* 2008). Thus, the ability to effectively profile and differentiate F1 team BPs is a desirable one.

In the context of differentiating sports brands, BP is a profile construct whereby there is no single configuration of BP scores that is 'optimal' for all brands. Thus, the 'ideal' personality of a brand will depend on the brand's market and its positioning within that market (Aaker 1996, Diamantopoulos, Smith & Grime 2005). Aaker's (1997) BP construct has been previously used to profile brands in the German retail, US and Japanese fast-food restaurant and non-profit sectors (Siguaw, Mattilia & Austin 1999, Murase & Bojanic 2004, Venable *et al* 2005, Zentes, Morschett & Schramm-Klein 2008), but has not been used to profile F1 team brands.

Method

Four F1 teams were selected to represent strong (Ferrari, Williams) and weak (B.A.R., Jaguar) winning performance levels. A self-administered questionnaire taking approximately 8-10 minutes to complete was pre-tested on a group of F1 enthusiasts, with four versions to reflect each team. Completing the survey in a motorsport atmosphere, 160 respondents were randomly assigned to rate one of the four F1 team brands (40 per team). Measures included Aaker's (1997) 42-item BP scale (BP Total α = .97, Sincerity α = .86, Excitement α = .95, Competence α = .94, Sophistication α = .84, Ruggedness α = .81), using a 5-point Likert scale (strongly disagree/strongly agree). Fan identification (α = .93), used as a covariate to increase

the study's precision, featured an 8-item, 5-point scale (not at all descriptive of me/descriptive of me) adapted from Wann & Branscombe (1993). Manipulation checks confirmed that respondents accurately identified each F1 team as strong or weak performing. (See Donahay & Rosenberger 2007 for more methodology details.)

Responses were collected over a three-week period beginning in the F1 season's second quarter. Respondents were customers of a Sydney, Australia, specialty retailer focused on F1 memorabilia and merchandise and organising group trips to the Australian and Malaysian F1 Grand Prix (GP) weekends. Customers approaching the counter staff or making a purchase were asked to participate, with approximately two-thirds agreeing. Respondents were 27 years old on average (range 18-55) and mostly male (83%). 64% of respondents had watched the most recent F1 GP race, 87% watched five or more GP races each season (43% watched all GP races in a season) and 26% had attended the Australian GP. Respondents used three media sources to follow F1 and were knowledgeable about current F1 events and the F1 team rated. The sample was deemed representative of Australian F1 fans (Geach 2000).

Results

The BP profile analysis (Figure 1 and Appendix 1) suggests that F1 TEAM had a significant effect on BP Total (ANCOVA, $F(3,155) = 70$, $p < .0005$, $\eta^2 = .57$) and on the set of five dependent variables (i.e. the five BP dimensions) (MANCOVA, Wilks' $\Lambda = .252$, $F(15, 420) = 18$, $p < .0005$, $\eta^2 = .37$), controlling for FAN ID. Follow-up ANCOVAs found that each individual BP dimension differed significantly across the F1 teams ($F(3, 155) > 12.09$, $p < .0005$), with the variance explained (η^2) ranging from 19% (Sincerity), 21% (Ruggedness), 44% (Sophistication), 53% (Excitement) to 65% (Competence).

Figure 1. F1 Team Brand Personality Profiles
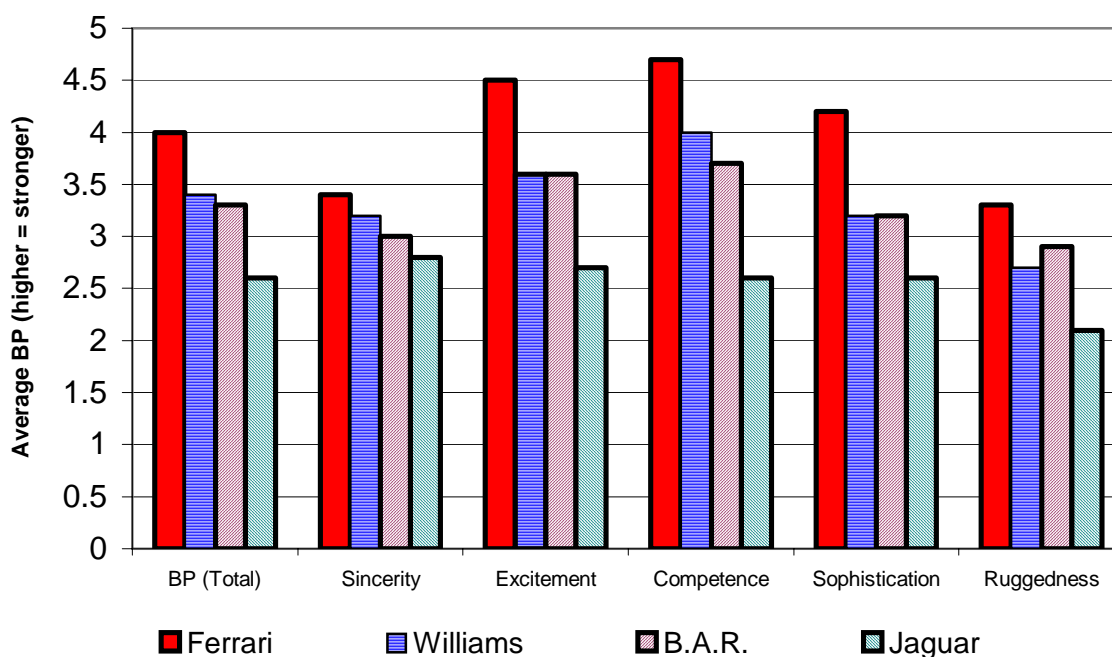
Significant pairwise comparisons amongst the F1 teams are reported in Table 1. For example, Ferrari differs from B.A.R. and Jaguar on the Sincerity dimension. Overall, Ferrari and Jaguar differed the most frequently from the other F1 teams. However, despite representing different strong/weak performance profiles, Williams and B.A.R. had similar BP profiles and differed from each other only on the Competence dimension.

Table 1. BP Pairwise Comparisons

|	**Ferrari**	**Williams**	**B.A.R.**	**Jaguar**
BP Total	W, B, J	F, J	F, J	F, W, B
Sincerity	B, J	J	F	F, W
Excitement	W, B, J	F, J	F, J	F, W, B
Competence	W, B, J	F, B, J	F, W, J	F, W, B
Sophistication	W, B, J	F, J	F, J	F, W, B
Ruggedness	W, J	F, J	J	F, W, B

Notes: F = Ferrari, W = Williams, B = B.A.R., J = Jaguar.
All significant pairwise comparisons are shown ($p < .01$, Bonferroni method).

Exploring the Effects of Winning Performance on BP

Performance (WIN) had a significant influence on the overall brand profile (BP Total, ($F(1,157) = 76.809$, $p < .0005$, $\eta^2 = .33$) and on the set of five BP dimensions (Wilks' $\Lambda = .542$, $F(5, 153) = 25.893$, $p < .0005$, $\eta^2 = .46$), when controlling for FAN ID. High-performance teams (Ferrari, Williams) had a stronger BP Total (mean = 3.7) than low-performance teams (B.A.R., Jaguar) (mean = 3.0). Significant high/low performance differences were also identified across each individual BP dimension ($F(1,157) > 10.3$, $p < .002$, η^2 ranged from .06 to .42), where high-performance teams had stronger BP dimension scores than low-performance teams (see Figure 2).

Figure 2.   High/Low WIN Group Comparison
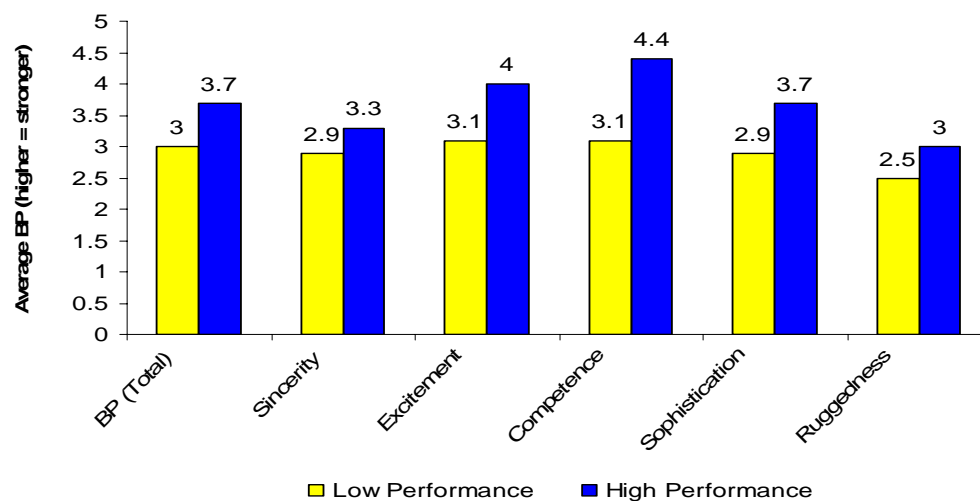
Notes: Means reported. All comparisons significant at the $p < .002$ level.

Exploring the effects of Fan Identification on BP

FAN ID was moderately correlated with BP Total ($r = .43$, $p < .0005$) and each of the five BP dimensions ($r = .28$ to $.42$, $p < .0005$), and had a significant covariate effect on both BP Total ($F(1, 155) = 43.413$, $p < .0005$, $\eta^2 = .22$) and the set of BP dimensions (Wilks' $\Lambda = .752$, $F(5, 151) = 9.984$, $p < .0005$, $\eta^2 = .25$). FAN ID helped explain more overall variance in BP Total (18% increase, from $\eta^2 = .56$ to $.65$) and the set of BP dimensions (18% average dimension increase from $\eta^2 = .41$ to $.48$). However, with FAN ID included as a covariate, F1 TEAM's explanatory ability only increased by 3.4% for BP Total (from $\eta^2 = .56$ to $.57$). A similar FAN ID covariate effect was observed in the performance (WIN) analyses for BP Total, increasing the overall explanatory power of the model by 40% (from $\eta^2 = .32$ to $.45$) but having a minor impact (1.9%) on improving WIN's explanatory ability (from $\eta^2 = .32$ to $.33$). (Individual BP profile dimension η^2 changes can be seen in Appendix 3.)

To better understand FAN ID's influence, a median split was used to assign respondents to high (mean = 3.2) or low (mean = 1.5) FAN ID groups. The BP analysis was rerun using FAN ID GROUP as an additional factor in a 2 x 4 ANOVA (BP Total) and 2 x 4 MANCOVA (five BP dimensions). There was a significant FAN ID GROUP * F1 TEAM interaction for BP Total ($F(3, 152) = 2.9$, $p = .037$, $\eta^2 = .05$) and the BP dimensions (Wilks' $\Lambda = .754$, $F(3, 409) = 2.941$, $p < .0005$, $\eta^2 = .09$). High FAN ID GROUP respondents reported stronger scores for BP Total and the individual BP dimensions for all teams (see Figure 3 and Appendix 2), except for a very slight reversal for Jaguar for Excitement and Competence. FAN ID GROUP also had a significant main effect for BP Total ($F(1, 152) = 26.039$, $p < .0005$, $\eta^2 = .15$) and the BP dimensions (Wilks' $\Lambda = .840$, $F(5, 148) = 5.657$, $p < .0005$, $\eta^2 = .16$). A similar pattern was found when FAN ID GROUP was used as a factor along with WIN (as illustrated in Figure 4 for BP Total).

Figure 3. BP Profiles for F1 Team * Fan ID Group
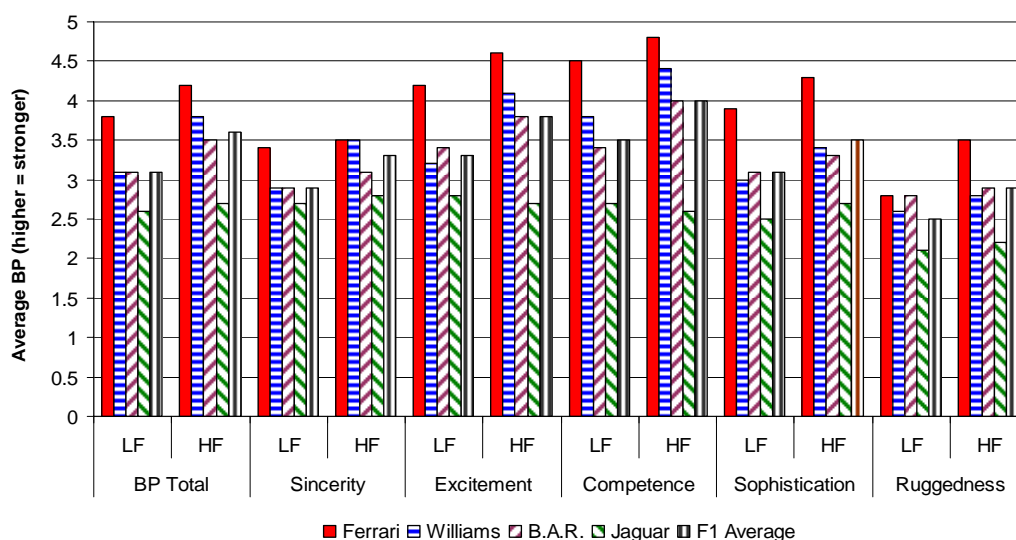
Notes: Means reported. LF = Low FAN ID group, HF = High FAN ID group.

Figure 4. Means Plot of BP Total for WIN Group * FAN ID Group
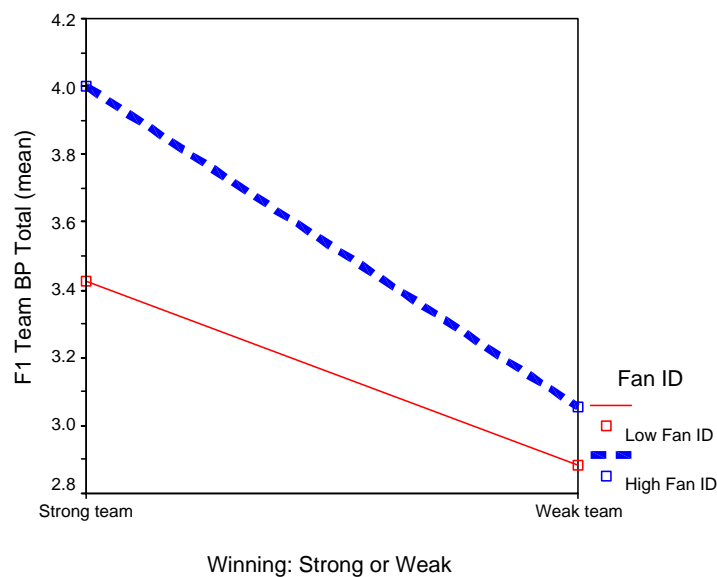
Furthermore, compared to low FAN ID respondents, more of the highly identified fans attended the Australian GP and watched the most recent F1 GP ($p < .01$), watched twice as many GP races ($p < .0005$), used more information sources in total to follow F1 (high = 3.5, low = 2.3, $p < .0005$) and used more involved F1 information sources more often (Internet, newspapers and magazines, $p < .003$), were able to name more F1 team sponsors (high = 3.4, low = 2.5, $p < .0005$) and saw the F1 team's principal sponsor in more media sources (high = 3.9, low = 2.1, $p < .0005$). This suggests that high FAN ID respondents are more involved in following F1 racing, highlighting the importance of strengthening F1-team fan identification.

Discussion and Conclusions

Aaker's (1997) BP construct was effective at profiling and determining significant F1 team, BP-profile differences. These findings also contribute to BP's external validity, enabling the generalisation of BP findings to other populations and identifying potential boundary conditions (Lynch 1999, Easley, Madden & Dunn, 2000).

This study found that a F1 team's (winning) performance influences the perception of sports-team BP. High-performance teams (Ferrari, Williams) had stronger BP Total and BP dimension scores than low-performance teams (B.A.R., Jaguar). However, Williams and B.A.R. had similar BP profiles and differed from each other only on the Competence dimension, despite representing different strong/weak performance profiles. This has sponsorship implications regarding resource allocations (which are discussed later).

Fan identification was also found to influence F1-team BP-profile perceptions. As a covariate, FAN ID helped explain more overall variance in BP Total and the set of BP dimensions, whilst having a negligible impact on the influence of F1 TEAM and WIN. However, the FAN ID GROUP analysis clearly showed that fans higher in FAN ID reported stronger scores for the overall brand profile (BP Total) and the individual BP dimensions for all teams. This may be explained in part by the greater involvement of high FAN ID

respondents in following F1 racing, which highlights the importance of building strong F1-team fan identification. This also supports the positive effect FAN ID has on the efficiency of the brand-image transfer process found in our initial study (Donahay & Rosenberger 2007).

These results illustrate the practical benefits in motorsport practitioners using Aaker's BP construct to identify and monitor the perceived BP-profile differences of their team's brand versus competitors. This can facilitate planning brand strategies designed to achieve F1 team (or sponsor) brand objectives. For example, if weak-performing F1 teams are cheaper to sponsor than high-performing teams, then the similarity in BP profiles identified for Williams and B.A.R. suggests that financial savings could be had in sponsoring B.A.R. (weak) instead of Williams (strong) for some sponsors in achieving similar BP-association benefits.

FAN ID's influence suggests that communication campaigns targeted at highly identified fans could benefit F1 teams and their sponsors in improving loyalty outcomes. Understanding F1 fans' identification and attachment process can assist developing more appropriate messages and using more effective media to improve team and sponsor outcomes (Hunt, Bristol & Bashaw, 1999, Madrigal 2001, Pons, Mourali & Nyeck 2006). It also suggests that F1 teams consider increasing team-involvement opportunities for fans (e.g. autograph sessions, competitions, post-race driver debriefs and chat sessions on the team's Website). The sponsor benefits of increased fan identification and involvement could then improve sponsorship opportunities for the F1 team.

In light of the F1 team's winning performance BP influence, sponsors should ascertain the importance of winning for their target market. This should not take total precedence over other F1-team sponsor considerations, due to winning's limited influence in the image-transfer process (Donahay & Rosenberger 2007). However, 'winning is everything' for some fans, whilst competing for 'the love of the game' is important to others (Sukhdial, Aiken & Kahle 2002, Campbell, Aiken & Kent 2004). Therefore, understanding whether just competing or winning in F1 is important to a sponsor's customers should be considered when selecting 'any' F1 team or a winning F1 team. For example, whilst Williams and B.A.R. have quite similar BP profiles, Williams (mean = 4.3) is perceived as being a significantly more competitive, better performing and winning team than B.A.R. (mean = 1.9). This suggests that F1 sponsors targeting a 'winning is everything' segment should forgo the cheaper B.A.R. sponsorship and work with Williams instead.

Limitations of this research include its cross-sectional convenience sample of F1 fans from one major Australian metropolitan market. Next, only four F1 team brands were investigated that represented high and low levels of winning performance. Therefore, caution is needed in extrapolating these findings to the broader F1 motorsport market and to other motorsport segments and countries. Therefore, future research should profile more F1 teams and other motor sports. Research could better understand a team's (winning) performance influence on fan BP perceptions, as well as fan identification's relationship with involvement and other attitudinal (branding) and behavioural loyalty team and sponsor outcomes. Finally, this study focused fan perceptions of the F1 team as a whole, though specific drivers may have their own devoted fan base (Dalakas & Levin 2005) and appear to have a larger media profile than their team (e.g. Lewis Hamilton and McLaren), suggesting investigating how a driver's fan identification and BP affects the team's BP and other loyalty outcomes.

In conclusion, the findings of this study support the use of Aaker's BP scale in distinguishing unique F1 team BP profiles. Fan identification and a F1 team's winning performance also had

significant BP-profile effects. BP profiling can provide significant insights into the personality of their F1 brand, thus facilitating a match between the personalities of the F1 team brand, the sponsor's brand and the sponsor's target consumer.

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Appendix 1. Brand Personality Profiles

	Ferrari	Williams	B.A.R.	Jaguar	F1 Average
BP (Total)	4.0	3.4	3.3	2.6	3.3
Sincerity	3.4	3.2	3.0	2.8	3.1
Excitement	4.5	3.6	3.6	2.7	3.6
Competence	4.7	4.0	3.7	2.6	3.7
Sophistication	4.2	3.2	3.2	2.6	3.3
Ruggedness	3.3	2.7	2.9	2.1	2.7

Note: Means reported.

Appendix 2. BP Profiles for F1 Team * Fan ID Group

	Ferrari		Williams		B.A.R.		Jaguar		F1 Average	
	LF	HF	LF	HF	LF	HF	LF	HF	LF	HF
BP (Total)	3.8	4.2	3.1	3.8	3.1	3.5	2.6	2.7	3.1	3.6
Sincerity	3.4	3.5	2.9	3.5	2.9	3.1	2.7	2.8	2.9	3.3
Excitement	4.2	4.6	3.2	4.1	3.4	3.8	2.8	2.7	3.3	3.8
Competence	4.5	4.8	3.8	4.4	3.4	4.0	2.7	2.6	3.5	4.0
Sophistication	3.9	4.3	3.0	3.4	3.1	3.3	2.5	2.7	3.1	3.5
Ruggedness	2.8	3.5	2.6	2.8	2.8	2.9	2.1	2.2	2.5	2.9

Notes: Means reported. LF = Low FAN ID group, HF = High FAN ID group.

Appendix 3. BP Profile Dimension η^2 Changes

Fan ID Effect: Change in Variance Accounted For (η^2) in BP Profiles for the Factors: F1 Team

	With FAN ID η^2	No FAN ID η^2	Difference η^2 (%)	
BP Total	.653	.555	.098	(18%)
Sincerity	.319	.210	.109	(52%)
Excitement	.618	.524	.094	(18%)
Competence	.698	.633	.065	(10%)
Sophistication	.497	.452	.045	(10%)
Ruggedness	.273	.228	.045	(20%)
BP Dimension Average	.481	.409	.072	(18%)

Notes: BP Dimension Average = average of the five BP dimensions; ANCOVA results reported for the overall model for BP Total; MANCOVA results reported for the overall Corrected Model.

Fan ID Effect: Change in Variance Accounted For (η^2) in BP Profiles for the Factor: Performance (WIN)

	With FAN ID η^2	No FAN ID η^2	Difference η^2 (%)	
BP Total	.453	.323	.13	(40%)
Sincerity	.281	.157	.124	(79%)
Excitement	.412	.284	.128	(45%)
Competence	.500	.415	.085	(20%)
Sophistication	.288	.214	.074	(35%)
Ruggedness	.136	.074	.062	(84%)
BP Dimension Average	.323	.229	.094	(41%)

Notes: WIN = high/low performance; BP Dimension Average = average of the five BP dimensions; ANCOVA results reported for the overall model for BP Total; MANCOVA results reported for the overall Corrected Model.