

An Examination of Personality Traits of Motorsports Management Students

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Abstract

For the motorsports industry, there is a strong desire to recruit individuals that have realistic expectations of the profession as well as exhibit the personality traits needed to be successful in the industry over time. The study sought to examine and compare personality traits of motorsports management students to those of practitioners currently working in the industry and non-motorsports management students drawn from the general student population. This study is the first known attempt to operationalize and validate many of the personality characteristics identified by Jenkins, Pasternak, and West (2005) to predict career success in motorsports. The study concluded that the primary difference among potential job seekers is the perceived passion they possess to underscore a strong desire to work in motorsports. We suggest students with pre-university enrollment industry work experience coupled with motorsports-related internships during and immediately after a planned program of study will continue to express “a high sense of calling to the field”. These individuals are more suited for the demands of the sport and thus better overall job candidates.

Keywords: racing industry, career preparation, passion

Over the last two decades with Formula 1 leading the way, motorsports has grown to become one of the most popular spectator sports in the world (Gifford, 2006; Graham, 2012). Motorsports is a significant global industry valued at approximately \$100 billion, with the United States (U.S.) representing the largest consumer at 26 percent (Connaughton & Madsen, 2007; Henry, Angus, Jenkins, & Aylett, 2007; Klacik, 2012). NASCAR, with an estimated 75 million fans, rivals only the National Football League as the preeminent spectator sport in the U.S. (Wolfe, 2006). The NASCAR Sprint Cup Series is the second most watched regular season sport on television and NASCAR fans are the most brand loyal (72%) when buying products/services associated with the sport (O'Malley, 2002).

Motorsports represents a sizeable portion of the entertainment industry influencing other major industries such as hospitality and tourism, and is comprised of a variety of constituents such as sanctioning bodies, race teams, drivers, race track operators, race promoters, race equipment suppliers, merchandise and services vendors, broadcast and media partners, and corporate partners and sponsors (Gailey & Young, 2012; Young, 2010). The health of the U.S. motorsports industry is directly tied to the economy, arguably more so than other sports (Edwards, Alderman, & Estes, 2010), with its almost singular reliance on sponsorship dollars to fund race teams. Economic impact studies in North Carolina and Indiana document the existence and growth of thousands of motorsports industry jobs (Connaughton & Madsen, 2007; Klacik, 2012). Yet, there are only a handful of four-year universities and

colleges in the U.S. that offer programs in Motorsports Management (e.g., Belmont Abbey College, Winston-Salem State University, Indiana State University, East Tennessee State University, and Indiana University Purdue University - Indianapolis). Though such programs are relatively new and have typically evolved from traditional sport management degrees, motorsports practitioners have provided substantive input into the design of each program. Given the international aspects of the motorsports industry, we also note a number of universities in England such as Oxford Brookes University and Cranfield University that offer programs of study in Motorsports Engineering.

In addition, industry insiders have provided antidotal evidence that identify certain personality characteristics that predict career success in motorsports (Jenkins et al., 2005). While much discussion and research addresses the career needs of sport management students in general (Mathner & Martin, 2012), there is an absence of academic research which focuses specifically on the characteristics of students entering the motorsports industry. In addition, prior research suggests certain segments of the sport management industry may view the importance of various job competencies differently (Cuskelly & Auld, 1991). Therefore, in an effort to begin the academic research stream, this exploratory study seeks to examine and compare personality traits of motorsports management students to those of practitioners in the industry. In addition, we examine and compare personality traits of motorsports management students to those of the general student population.

Background

Personality traits are those components of personality that are heritable, developmentally stable, and emotion-based. The traits, discovered or learned within a particular socio-cultural context, may also reflect personal goals and values (Eley, Eley, Young, & Rogers-Clark, 2010). The identification of preferred personality traits have been undertaken in most professions (Borges & Savickas, 2002); however, most empirical findings suggest there is no one “type” of person who chooses a given profession (Eley et al., 2010). Despite these findings, long term career success in the motorsports workforce may require individuals to possess specific personality traits. In their effort to develop a framework for success in Formula 1, the leading form of racing in the world, Jenkins et al. (2005) spent several years interviewing individuals experienced and familiar with the demands of the sport. As a result, the authors identified personality traits deemed vital to individual and team performance in the sport. Specifically, the authors determined these characteristics to be of particular interest: collaborative, focused, trustworthy, ethical, leadership, decision making, and passionate. We define and briefly discuss each below in the context of the motorsports industry.

Personality Traits

Collaborative. According to Sveiby and Simons (2002), an individual demonstrates collaborative behavior when he/she has a willingness to work with others and share knowledge. In racing, team roles tend to be clearly defined. Individuals know how their jobs interconnect with others in the organization and precise, orchestrated actions are planned beforehand (Jenkins et al., 2005). The pit stop is an often cited example of teamwork (Lawhorn, 2009). Individual crew members perform assigned tasks such as refueling, tire changes, and mechanical repairs concurrently. Poor performance in any aspect of the pit stop can cost a driver precious positions on the track.

Teamwork is critical to success away from the track as well. Innovations relating to racing equipment can be dependent on successful collaboration between designers and partners that provide raw materials and component parts. For instance, the first Formula 1 car fabricated from carbon fiber resulted from the collaboration between a Formula 1 team and an aerospace supplier (Delbridge & Mariotti, 2009).

And on race day, personnel from sanctioning bodies, race tracks, race teams, the media, and sponsors work together to produce a racing event. For example, sanctioning bodies enforce the rules that teams must follow. Race tracks provide medical, safety, and security workers that keep fans and teams protected as well as offer venues for sponsors to entertain invited guests. Track personnel give direction and assistance to the media in terms of assembling broadcast equipment. Each weekend demands a well-planned and implemented event with multiple parties collaborating to achieve success.

Focused. An individual that persists with a task to its completion despite bouts of frustration, fatigue, and limited reinforcement can be described as focused (Eley et al., 2010). Task-focused work behavior is critical in most aspects of the motorsports industry. For race teams, each race week routine is devoted to consistent performance improvements and higher race finishes. The difference between success and failure is measured in fractions of a second. Race weekends demand absolute focus due to the highly competitive nature of the sport and the millions of dollars changing hands among sponsors, race teams, race tracks, sanctioning bodies, and the media. The influx of money into the sport over the last two decades has resulted in elaborate contracts detailing every aspect of responsibility to be fulfilled (Quirk, 2007). Moreover, the production of a large-scale motorsports event may take a year's worth of planning. The need to secure sponsorships, sell race tickets and merchandise, and promote events is on-going. Ultimately, event success is measured in terms of attendance and viewership numbers as well as the return on investment (ROI).

Trustworthy. Building trust requires attention to the five facets of trust: benevolence, reliability, competence, honesty, and openness (Tschannen-Moran, 2001). Jenkins et al. (2005) assert that trust is the "glue" that holds a race team together. Without trust among team members, organizational effectiveness decreases. In addition, millions of dollars regularly change hands in terms of sponsorship funds for series, tracks, and teams. Without such funding, many organizations simply cannot operate. For example, Sarah Fisher Racing entered into a contractual agreement with Gravity Entertainment, Inc. to receive primary sponsorship money

that never materialized (Wells, 2008). The action endangered Fisher's entry into the Indianapolis 500 and eventually resulted in a default judgment in her favor of \$2.2 million. Unfortunately, the motorsports industry has historically attracted "more than its fair share of shady characters" (ESPN.com, 2008). Mismanagement and/or theft of funds can quickly result in failed relationships and failed ventures. A real-life example underscores the concern. A team manager was found guilty of embezzling \$1.5 million from the owner by creating bogus invoices related to car parts (Novack, 2003).

Ethical. Brown, Sautter, Littvay, Sautter, & Bearnese (2010) described an ethical outlook as a heightened sense of morality or an active vigilance in regard to justice. The importance of ethical behavior in motorsports was emphasized by Jenkins et al. (2005) in their discussion of Formula 1 teams. Having personal integrity and "doing the right thing" enables an environment of open communication and collaboration among individuals within the organization. Yet, race teams continue to push the "ethical envelope." Richard Petty recently stated "Don't get caught...Go as far as you can without getting caught...We got caught with a couple of things...but again, look at what we didn't get caught at" (Skretta 2013, p. 4b).

Motorsports is a global "sport" governed by The Federation Internationale de l'Automobile (FIA). Located in Paris France, the FIA administers rules and regulations for motorsports' sanctioning bodies around the world. The Automobile Competition Committee for the United States (ACCUS) is part of the U. S. affiliate of the FIA which includes NASCAR, IndyCar, NHRA, USAC, IMSA, among others. The FIA Ethics Committee is specifically responsible for safeguarding the integrity and reputation of motorsports. Ethical behavior is critical to other participants in the motorsports industry as well. For example, the International Speedway Corporation, which owns over a dozen major racing venues in the U.S., identifies the importance of conducting business honestly and ethically as one of its core values (Young, 2010).

Leadership. Leadership is the person's ability to induce followers to coordinate their actions in order to achieve specific goals (Van Vugt & Kurzban, 2007). Within successful race teams, there must be individuals throughout the organization who are willing and capable to accept the leadership responsibilities regardless of their formal position and corresponding authority (Jenkins et al., 2005). The motorsports industry is comprised of large and small, privately and publically owned organizations that have two primary goals: winning races and achieving an acceptable ROI. As with race teams, other motorsports constituents such as sanctioning bodies and race tracks need strong leaders to help the organizations achieve ROI goals since the sport is so dependent on sponsorship dollars. Williamson (1999), in a discussion of leadership in NASCAR, suggests that racing requires strong leaders that provide common focus for their organizations, facilitate timely feedback on individual and collective performance, provide needed resources for accomplishing responsibilities, hold individuals accountable for assigned tasks, walk the talk, commit to openness and honesty, and listen well.

Decision Making. Henderson & Zvesper (2002) describe decision making as an individual's thought process relating to the selection of a course of action. Johnson (1978) stated decision

making can be spontaneous or systematic in terms of how individuals gather and process information as well as internal or external depending on the degree of privacy an individual prefers when processing information. In motorsports, the capacity to make a decision is possibly the most important ability that an individual may possess. As Jenkins et al. (2005) explained, race teams have short windows of preparation for each race throughout the season. Thus, making timely decisions, learning from the results, and quickly moving on are necessary for success. Sanctioning bodies and race track owners also face important decisions. Recently, NASCAR announced it would be reviewing its decision making process for approving race title sponsorships because of the controversy related to Texas Motor Speedway's decision to allow the National Rifle Association to sponsor a Sprint Cup race (Bernstein, 2013).

Passionate. Snizek and Crocker (1985) described a "sense of calling to the field" as the individual's passion for a given profession reflected in how the person feels and behaves as a member of the profession. For individuals, sustained careers in the motorsports industry are primarily related to "an all-encompassing passion for just about everything that revolves around their participation in this sport" (Jenkins et al., 2005, p. 52). Long hours, hard work, and sacrifice are requirements of most jobs in the motorsports industry. For example, a recent job posting, for concession manager at Summit Motorsports Park in Ohio, indicated the position requires a 100-hour work week during the seven month racing season. Individuals who have a true passion for the industry will learn as much as possible about racing's intricacies, read and research the industry including its history, attend as many professional motorsports events as possible, and network and converse with motorsports managers on a regular basis.

Purpose

The purpose of the exploratory study was to examine and compare personality traits of motorsports management students to those of practitioners in the industry. A secondary purpose of the study was to analyze differences in personality traits of motorsports management students and the general student population. Knowledge obtained from the study could inform curricular development and revision to better prepare students for long term careers in the motorsports industry. Thus, the study was guided by the following research questions:

1. What differences in personality traits exist among motorsports management students and practitioners in the industry?
2. What differences in personality traits exist among motorsports management students and the general student population?

Methodology

Sample and Data Collection

The context for the study was a university that offered a program in Motorsports Management. Following human subjects review, data were collected during the 2010-11 academic year using a self-administered questionnaire. Respondents were instructed to conduct a self-assessment of their perceived behavior when working on a challenging project. The usable sample (N=325) was

inclusive of students enrolled in the program, motorsports industry practitioners affiliated with the program, and non-motorsports management students from the general student population. In terms of students enrolled in the program, 80% (n=40) participated in the study. A majority of students did report having some degree of experience working in the industry at the grass roots level prior to university enrollment. The survey was distributed to the program's industry advisory board members currently working in the sport. Each practitioner was instructed to complete the survey as well as secure additional managerial personnel to participate. Twenty-nine usable surveys were received representing 14 organizations that included multiple sanctioning bodies, race tracks, race teams, equipment vendors, and service providers. The average years of industry experience in the sample was approximately 10 years with a median of 7 years and a range from 1 to 32 years. Finally, a convenience sample (n=256) of non-motorsports management students from the general student population was obtained by administering the survey in accessible classes. The sample contained students enrolled in the university's five colleges and a representative number of freshmen, sophomores, juniors, and seniors.

Measurement of Variables

While we could have utilized the well-established Five Factor Model (FFM) of personality traits survey instrument (Digman, 1990), it was too general in nature for this study. Thus, we selected scales that seemed more appropriate for the motorsport context based on success factors identified by Jenkins et al. (2005). All construct measures were obtained from scale items used in previous empirical work. Scale items that comprised six of the seven traits in the study - collaborative, focused, trustworthy, ethical, leadership, and decision making - were selected from the well-known *International Personality Item Pool* (IPIP), an on-line public domain repository (affiliated with the University of Oregon) of empirically tested scales. Survey items measuring an individual's passion for the motorsports industry were based on Snizek and Crocker (1985).

All scale items used a seven-point Likert scale with a range of "strongly disagree" (1) to "strongly agree" (7) (see Table 1). Using all 325 respondents in the study, principle components analysis (PCA) and reliability analysis were undertaken. PCA with varimax rotation was conducted to confirm that individual scale items were loading together to comprise the identified constructs. Table 2 displays the constructs and all individual item loadings above the "good" level of .55 (Tabachnick & Fidell, 1983). Items that loaded below .55 are not shown and were deleted from further statistical analysis. As shown in Table 1, the reliability results for each construct are well above the common threshold of .70 (Hair, Anderson, Tatham, & Black, 1995). Table 3 presents the correlation results between constructs. No multicollinearity was detected.

Data Analysis

To assess the two research questions, multivariate analysis of variance (MANOVA) was performed for the study constructs. MANOVA is particularly useful because it simultaneously explores the relationship among several categorical independent variables and two or more interval dependent variables (Tabachnick &

Table 1. Scale Items and Reliabilities for Constructs^a

Construct	Reliability Score
Collaborative ^b When working as part of a team, I: 1. Help others get the job done. 2. Support fellow group members. 3. Work cooperatively with others. 4. Am sensitive to the needs of others. 5. Can resolve conflicts. 6. Adapt to team efforts.	.84
Focused ^b When working on a challenging project, I: 1. Stick to a task until it's complete. 2. Concentrate hard on a task until it is done.	.82
Trustworthy ^b It is important that I: 1. Keep my promises. 2. Am honest. 3. Am trustworthy.	.89
Ethical ^b It is important that I: 1. Follow the spirit of the rule. 2. Follow the letter of the rule. 3. Do the "right thing" even if it causes problems.	.77
Leadership ^b When working as part of a team, I: 1. Lead and direct team members. 2. Motivate and inspire team members.	.75
Decision Making ^b When working on a challenging project, I: 1. Generate a list of options before making decisions. 2. Think about implications before making decisions. 3. Break down tasks into manageable parts. 4. Establish specific goals and timeline. 5. Plan and prioritize a course of action.	.86
Passionate ^c In terms of your future career ambitions: 1. I have a real calling to work in motorsports. 2. It would be personally gratifying to work in the motorsports industry. 3. I believe the motorsports industry serves an important purpose.	.89
Note. a Based on 7-point scales with 1 = strongly disagree to 7 = strongly agree (N=325). b Scale items pulled from the International Personality Item Pool: A Scientific Collaboratory for the Development of Advanced Measures of Personality Traits and Other Differences. c Scale items pulled from Snizek and Crocker (1985).	

Fidell, 1983).

Findings and Discussion

Do differences in personality traits exist among motorsports management students and practitioners in the industry? As shown in Table 4, only one of the seven personality traits depicted a statistically significant difference. Motorsports Management students reported higher levels of passionate than practitioners in the industry. For the remaining six traits, the mean scores were relatively similar in magnitude. Thus, in terms of their own self-assessment, Motorsports Management students had the same perceived behaviors as practitioners in terms of *collaborative*, *focused*, *trustworthy*, *ethical*, *leadership*, and *decision making*.

Though Motorsports Management students perceived themselves

Table 2. Principle Components Analysis Results

Construct Scale Item	Collab	Focus	Trust	Ethical	Leader	Decision	Passion
Collab 1	.617						
Collab 2	.697						
Collab 3	.703						
Collab 4	.611						
Collab 5	.599						
Collab 6	.743						
Focus 1		.752					
Focus 2		.791					
Trust 1			.788				
Trust 2			.838				
Trust 3			.876				
Ethical 1				.749			
Ethical 2				.882			
Ethical 3				.677			
Leader 1					.746		
Leader 2					.683		
Decision 1						.738	
Decision 2						.649	
Decision 3						.619	
Decision 4						.697	
Decision 5						.667	
Passion 1							.911
Passion 2							.933
Passion 3							.823

Table 3. Correlations Between Constructs

	Collab	Focus	Trust	Ethical	Leader	Decision	Passion
Collab	1.000						
Focus	.293a	1.000					
Trust	.488a	.307a	1.000				
Ethical	.362a	.307a	.402a	1.000			
Leader	.437a	.320a	.302a	.155a	1.000		
Decision	.393a	.502a	.292a	.306a	.399a	1.000	
Passion	.147a	.114b	.073	.179a	.170a	.153a	1.000
Note. a Correlations are significant at the 0.01 level (2-tailed). b Correlations are significant at the 0.05 level (2 tailed).							

to be more passionate about the industry than practitioners, the result is not too surprising. As Mathner and Martin (2012, p. 3) suggest "the potential for incongruities between expectations and reality are especially high in sport careers, as working in sport is often viewed as glamorous while in actuality many sport jobs involve long hours, low pay, and little prestige". Previous research findings also indicated that after completing an internship, many sport management students reported a reduced intent to work in a sport management profession (Cunningham & Sagas, 2004). Thus, Motorsports Management students who complete internships and afterward continue to express high levels of interest (i.e., passionate) in working in the industry upon graduation may be more suited for the demands of the sport and therefore better overall job candidates.

Do differences in personality traits exist among motorsports management students and the general student population? To perform the MANOVA, we appropriately undertook an artificial equalizing of the cell sizes. A smaller subset of the general

Table 4. Motorsports Personality Traits: Minors versus Practitioners

Construct	Means (Standard Deviation) for Each Group ^a		p value ^b
	Minors n=40	Practitioners n=29	
Collaborative	5.81 (0.66)	5.93 (0.62)	.438
Focused	5.54 (1.27)	5.74 (1.06)	.483
Trustworthy	6.59 (0.72)	6.75 (0.40)	.298
Ethical	5.70 (1.08)	5.60 (0.95)	.684
Leadership	5.43 (1.05)	5.67 (0.89)	.306
Decision Making	5.46 (0.81)	5.57 (0.83)	.576
Passionate	6.32 (1.05)	5.53 (1.39)	.009

Note. ^aLarger values indicate higher scores (based on 7-pt scales with 1 = strongly disagree to 7 = strongly agree). ^bMultivariate test of significance: $F(36/12273 \text{ df})=1.71, p=.005, \text{Box M}=70.78$.

Table 5. Motorsports Personality Traits: Minors versus Students

Construct	Means (Standard Deviation) for Each Group ^a		p value ^b
	Minors n=40	Students n=42	
Collaborative	5.81 (0.66)	5.88 (0.82)	.644
Focused	5.54 (1.27)	5.19 (1.35)	.234
Trustworthy	6.59 (0.72)	6.55 (0.64)	.770
Ethical	5.70 (1.08)	5.42 (1.27)	.288
Leadership	5.43 (1.05)	5.25 (1.30)	.506
Decision Making	5.46 (0.81)	5.54 (1.07)	.711
Passionate	6.32 (1.05)	3.50 (1.46)	.000

Note. ^aLarger values indicate higher scores (based on 7-pt scales with 1 = strongly disagree to 7 = strongly agree). ^bMultivariate test of significance: $F(36/21425 \text{ df})=1.37, p=.068, \text{Box M}=55.32$.

university students (n=42) sample was randomly selected from the initial 256 students by an SPSS function to prevent error due to vastly unequal sample sizes (Tabachnick & Fidell, 1983). As shown in Table 5, only one of the seven personality traits depicted a statistically significant difference. As expected, Motorsports Management students reported much higher levels of passionate than general university students. For the remaining six traits, the mean scores were relatively similar in magnitude. Both student groups expressed agreement that they possess the six personality traits with all mean scores above 5 (of 7). Overall, in terms of the students' own self-assessment, Motorsports Management students have the same perceived behaviors as other college students in terms of *collaborative, focused, trustworthy, ethical, leadership, and decision making*.

Limitations

The study has several constraints that limit the findings and implications. The research effort is exploratory in nature and thus the results are not generalizable to the larger sport management field. While the results are certainly valid in describing the perceptions of the Motorsports Management students and the program's industry advisory board members for this given university, the results may not be representative of those obtained

from other Motorsports Management programs. In addition, the current sample of practitioners may not be representative of the industry as a whole. Thus, a larger diverse sample of practitioners would certainly be welcomed in future research efforts.

In terms of construct measurement issues, further consideration and development of motorsport specific trait constructs are needed. While the proposed measures appeared reliable and valid, they did not adequately capture differences among the groups. Differences may indeed exist and thus more sensitive measures of specific personality traits needed by the motorsports industry should be explored. In addition, the questionnaire was a self-assessment of an individual's personality traits. Thus, respondents may not be objective or truthful in judging their own behaviors. Educators, supervisors, and team members may actually provide more accurate assessments than the individuals themselves. Therefore, methods that aim to triangulate data sources may prove insightful. We certainly encourage further research that addresses the identified weaknesses of the study.

Conclusion

For the motorsports industry, there is a strong desire to recruit individuals that have realistic expectations of the profession as well as exhibit the personality traits needed to be successful in the industry over time. This study is the first known attempt to operationalize and validate many of the personality characteristics identified by Jenkins et al. (2005) that may predict career success in motorsports. Results from this study indicate the primary difference among potential job seekers is the perceived passion they possess to underscore a strong desire to work in motorsports. We suggest that students with pre-university enrollment industry work experience coupled with motorsports-related internships during and immediately after a planned program of study will continue to express "a high sense of calling to the field". These students are more suited for the demands of the sport and thus better overall job candidates.

Do program faculty members play a role in developing personality traits of students? Certainly some academic majors include measures of such traits in their learning outcome assessments. Yet, is it realistic to believe substantive personality development can occur within a time limited program of study? As the results in our study suggest, motorsports studies programs can recruit students with some degree of industry experience prior to university enrollment. Unknown, however, is whether these students already possess the needed personality traits (and to what degree), as well as how faculty may have influenced student development. Moreover, future research efforts are needed to determine if there is a hierarchy of traits that are more or less important to career success. Finally, scholars should continue to investigate whether personality traits and characteristics of motorsports personnel are different compared to other sport business.

Motorsports practitioners must continue to collaborate with educators in an effort to develop and revise Motorsports Management programs. The programs of study should include ample work-study opportunities to maximize student engagement with practitioners in authentic settings culminating with extended experience in the field (e.g., internship). Coursework and field experiences should address entry-level skills and current trends

with a particular emphasis on discovering and developing characteristics linked with success in the motorsport workplace. If the motorsports industry is to evolve, it must meet changing consumer demands. Human resource management goals that develop a pipeline of workers with the necessary traits and skills and experience will provide the industry access to qualified people capable of staying long term.

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