

ORIGINAL RESEARCH

Development of a Multi-Dimensional Scale to Measure Professional Athletes as Role Models

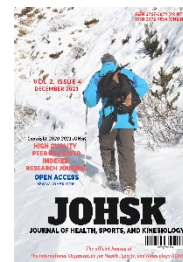
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ABSTRACT

Previous studies have indicated that young students who play sports look up to professional athletes and perceive these athletes as their role models. However, empirical studies that examine such perceptions comprehensively have not been conducted. In order to fill this gap in the literature, the current study developed a multi-dimensional scale to measure college student athletes' attitudes toward professional athlete role models. The eight-factor sports role model scale has 40 items. The results of this study indicate that student athletes observe and emulate the eight dimensions of their sports role model's behavior on and off the court in order to become like that role model. Such findings support social learning theory in the sport management discipline.

Key words: Sport Role Model, Professional Athlete, Student Athlete, Scale Development

INTRODUCTION

With the growing popularity of professional athletes under the spotlight, many students who participate in sporting activities choose professional athletes as their role models (Kohlstrung, 2016). "When I take my kid out and hit him ground balls at shortstop, he wants to be Derek Jeter. He does not want to be me. So any professional athlete who tells you he is not a role model is full of baloney" (Pulley, 2001, p. 131). In the highly commercialized sport industry, professional athletes who receive high salaries and media attention have become role models for the younger generation (Adair, 2015). Professional athletes are expected to play an important public role due to their prominence and visibility in the media (Guest & Cox, 2009). Leading sports stars are celebrities, and society expects them to be a public role model (Coakley, 2001; Rojek, 2006). Regarding the status of sports role models, a former NBA star, Tim Duncan, mentioned that professional athletes as role models should be careful of their behavior on and off the court (Feezell, 2005). An American Olympic gold medalist, Cheryl Miller also said, "When you reach a certain level of visibility, you are a role model whether you like it or not" (Globus, 1998, p. 28).

Journalists argue that sports role models' behavior on and off the court strongly influences college students' life in various ways (Smoll, 2015; Williams, 2017). Scholars also indicated that sports role models play an important role in helping young students develop viable self-concept (Bricheno & Thornton, 2007; Guest & Cox, 2009). Early adults are likely to be independent of their parents while defining and developing their self-concept (Gibson, 2003). Therefore, these young individuals seek external role models, such as high-profile athletes, through the media who can help them formulate self-concept (Strudler, 2000). These young people observe and emulate various aspects of their ideal sports role model (May, 2009). Therefore, they can become similar to their sports role model (Neemann & Harter, 2012). Furthermore, marketing researchers indicated that as a way of becoming similar to their sports role models, college students use the same sportswear, sports shoes and products which the role models endorse (Bush, Martin, & Bush, 2004). Marketing managers who target these young college students utilized these professional sports role models in television commercials (Clark, Martin, & Bush, 2001).

The phenomenon of professional athletes being regarded as role models for collegiate student athletes can be explained by social

learning theory (Bandura, 1977). Social learning theory indicates that individuals tend to observe others while formulating their own beliefs and attitudes. People learn a new skill or behavior by watching another prominent person, who thus plays an essential role in this learning and socialization process (Bandura, 1977). Such a process can be indirect, such as observing external role models through the mass media, because individuals' learning of a specific behavior is not necessarily related to the direct experience of that action (Bandura, 1977). Young students learn new skills, behaviors, or values by observing and following these vicarious role models presented by the media and reproduce them if these attributes and values become more critical to their life (Bandura, 1977).

Previous studies (Burch & Murray, 1999; Feezell, 2005; Globus, 1998; Harris, 1994; Kellner, 1996; Simons, 1997; Wilson & Sparks, 1996) have identified key attributes that define the concept of sports role models. The attributes include clothing styles, athletic footwear, fame, wealth, high social status, perceived positive value to society, supreme athleticism on the court, desire to win, championship, greatness throughout a career, charismatic play style, good personality, confidence, sportsmanship, fair play, community service, strong family ties, moral behaviors, hard work toward reaching a goal, dedication, commitment, love and respect for the game, and charitable work. Additionally, other studies represented several attributes of athletic role models, such as physical skills, moral behavior on and off the court, personal characteristics, interpersonal and intellectual abilities, self-actualization, giving back to society, physical characteristics, and socio-economic status (Assibey-Mensah, 1997; Bricheno & Thornton, 2007; Fleming, Hardman, Jones, & Sheridan, 2005; Giuliano, Turner, Lundquist, & Knight, 2007; Guest & Cox, 2009; May, 2009; Vescio, Wilde, & Crosswhite, 2005). However, there has been no scientific scale to comprehensively measure all these attributes of professional sports role model.

Some existing sports role model scales have been used to measure the relationship between a general sports role model concept and sport consumer behavior. For example, Rich's (1997) five-item general role model scale, developed in the management field, has been used in sport marketing research (Bush, Martin, & Bush, 2004). These previous studies found that sports role models influence young consumers' purchase intention and behavior. In addition, a three-item sports role model factor as part of the sports interest inventory scale (Funk, Mahony, Nakazawa, & Hirakawa, 2001) was used in several sport consumer behavior studies (Funk, Ridinger, & Moorman, 2003; Kim & Trail, 2010). These findings indicated the positive relationship between sports role models and consumers' interest in and attendance at sporting events. Also, Arai, Ko, and Kaplanidou (2013) included the three-item sports role model factor in their athlete brand image scale. They found that for consumers, sports role model is positively related to athlete brand image.

However, these existing scales failed to adequately capture various dimensions of the sports role model construct, such as athletic performance, professionalism, physical appearance, personality, fame/fortune, community service, and morality. Therefore, little is empirically known about the several domains which are demonstrated by sports role models and their relationships with the learning behavior of the young admirers. Therefore, the purpose of this study was to develop and validate a valid and reliable instrument to measure various aspects of the sports role model construct for college student athletes. In order to achieve the aim of the study, this study developed a multidimensional measurement tool of the sports role model scale.

METHODS

Participants

The researchers recruited 716 student athletes from universities in the northern region of South Korea who perceive professional athletes as their role models. The researcher provided those student athletes with the information on the research purpose, the requirement for study participation, and the informed consent letter. These students participated in the study by answering the Korean version of the questionnaire. All data were analyzed as a group and stored in the password-protected computer of the primary researcher. As a way of protecting the confidentiality of the research participants, the survey questionnaire did not contain any information that personally identifies them. The results of this study are used for scholarly purposes only and shared with other researchers of the study. There were no known physical or psychological risks, inconveniences, and discomforts that the participants might experience while completing the survey questionnaire. However, if any respondent felt uncomfortable with participating in the study, he or she was able to withdraw from completing the survey at any time.

Procedures

The English version of questionnaire items was generated and developed following a comprehensive literature review of methods for measuring attributes of sports role models. In order to examine the criterion validity of this newly-developed scale (DeVellis, 2012), the questionnaire included a self-concept measure. The study adapted the self-perception scale (Neemann & Harter, 2012), which is composed of various domains (i.e., scholastic competence, athletic competence, physical appearance, and social acceptance).

To evaluate the content validity of the sports role model scale, the questionnaire items were reviewed by a panel of five experts from departments of sport management, education, and psychology in the United States (DeVellis, 2012). Some overlapping items in terms of the athletic performance (i.e., my sports role model is a superior athlete) were removed. For the face validity of the instrument, 50 college students reviewed and responded to the items (Netemeyer, Bearden, & Sharma, 2003).

Next, two bilingual experts translated the English version of the questionnaire into Korean. Another panel of two experts interpreted the translated Korean questionnaire back to English to verify the instrument's reliability and clarify it for the eventual survey respondents. Therefore, the initial questionnaire consisted of seven factors: athletic performance (8 items), professionalism (22 items), physical appearance (7 items), personality (12 items), community service (7 items), morality (7 items), and fame/fortune (7 items).

Data Analysis

Next, the researcher randomly split this dataset into two groups, utilizing the Statistical Package for the Social Sciences (SPSS) computer program. Gorsuch (1983) asserted that at least 200 people are needed to conduct a factor analysis. An Exploratory Factor Analysis (EFA) was conducted on the 355 respondents of the first dataset to develop the initial factor structure for the sports role model scale. A Confirmatory Factor Analysis (CFA) was conducted on the 361 participant responses of the second dataset to see if any changes to this original model should be made. Such modifications of the model were based on a combination of statistical results (i.e., model fit indices) and theoretical senses. For example, the original sports role model scale was examined and revised by model fit indices, such as RMSEA, CFI, and SRMR, which are the most rigorous measures, and theoretical interpretability of items in each factor (Schumacker & Lomax, 2010). This study utilized RMSEA, CFI, and SRMR because those fit indices that are the least influenced by sample size and parameter number. The cut-off value of RMSEA for good fit is .08; the cut-off value of CFI for good fit is .90; and the cut-off value of SRMR for good fit is .08 (Hu & Bentler, 1999). The reliability of the modified sports role model scale was examined by the internal consistency test (i.e., Cronbach's alpha).

RESULTS

Of the 716 respondents, 72% were male and 28% were female. Ages ranged between 19 and 25. Study participants were considered to have positive perceptions of their sport role models' behavior on and off the court due to their mean score which was higher than 3.5 (the half-way point of a 7-point Likert scale) for all questionnaire items.

Exploratory Factor Analysis (EFA)

For the EFA of the first sample of 355 participants, the 70 questionnaire items were analyzed to establish an initial factor structure of the sports role model scale. The study utilized a principal-components analysis with oblique rotation, a promax rotation technique. The KMO measure for sampling adequacy was 0.96, and the BTS value was 18,124.76 ($p < 0.001$). These figures indicate that the sample is appropriate for factor analysis. The principal-components analysis identified eight factors with 67 items, explaining 66.76% of the total variance. After careful examination of the pattern matrix, 13 of the EFA items were discarded (AP3, AP4, PRO12, PRO21, PER2, PER5, COM1, COM2, M4, M5, M6, M7, and FF1), due to the critical issue of inappropriate theoretical justification. For example, AP3 and AP4 items were supposed to be a part of the athletic performance factor. However, they belonged to another factor (i.e., professionalism). Consequently, an eight-factor model with 54 items emerged for conducting a further CFA. As stated in Table 1, the eight factors which emerged from the EFA were professionalism (18 items, $\alpha = 0.95$), personality (10 items, $\alpha = 0.91$), fame and fortune (6 items, $\alpha = 0.88$), athletic performance (6 items, $\alpha = 0.90$), community service (5 items, $\alpha = 0.91$), game outfit (3 items, $\alpha = 0.87$), physical strength (3 items, $\alpha = 0.82$), and morality (3 items, $\alpha = 0.90$). This factor structure of the sports role model is almost consistent with the conceptual approaches. Six factors (i.e., professionalism, personality, fame and fortune, athletic performance, community service, and morality) were equivalent between the two models. However, physical appearance, which had been implemented, was divided into the two dimensions, game outfit and physical strength.

Confirmatory Factor Analysis (CFA)

The study used the second group of 361 participants to conduct the CFA for confirming and revising the eight-factor structure, using the 54 items of the sports role model scale established by the EFA. This study examined the initial measurement model on the basis of multiple model fit indices (i.e., chi-square fit index, RMSEA, CFI, and SRMR). The results indicated that the initial eight-factor with 54-item model did not statistically fit the current data. For example, the chi-square fit index was statistically significant ($\chi^2 = 3964.88$, $p < 0.001$) indicating that the measurement model does not fit the data. Furthermore, the CFI fit index was 0.83, which is below the cutoff value (0.90). On the other hand, the RMSEA fit index was 0.07, which is in the acceptable model fit range (0.08). Also, the SRMR fit index was 0.06, which is deemed acceptable.

On the basis of the model fit indices results, the study modified the initial measurement model in order to obtain reasonable model fit. As a way of respecifying the current model, the study examined whether the model had low factor loading items. After careful investigation, this study deleted 10 indicators (AP1, PRO2, PRO5, PRO8, PRO13, PRO14, PRO15, PER3, PER12, and FF4) whose factor loading was less than 0.71. This approach is likely to increase the convergent validity of the model (Anderson & Gerbing, 1988). Next, the CFA was conducted again; it showed that the fit indices of the modified measurement model had improved. For instance, the chi-square fit index decreased ($\chi^2 = 2443.16$, $p < 0.001$). Also, the CFI fit index increased to 0.88. The RMSEA fit index was the same, at 0.07. The SRMR fit index was the same, at 0.06. In spite of the respecification, the measurement model still had four indicators (AP7, PRO1, FF3, and FF5) that had a low factor loading. Therefore, those four items were deleted. The chi-square fit index decreased ($\chi^2 = 1906.13$, $p < 0.001$). Also, the CFI fit index increased to 0.90, which meets the recommended threshold. The RMSEA fit index was the same, at 0.07. The SRMR fit index was the same, at 0.06. However, the factor loading of the Fame and Fortune item 2 (0.70) was lower than the criterion. This indicator was retained, because of its theoretical meaning, in order to create the focal construct, which should comprise at least three items.

Table 1. Rotated Factor Pattern Matrix for Sports Role Model Dimensions (n =355)

FACTOR	1	2	3	4	5	6	7	8
Professionalism								
Set example (PRO1)	0.61							
Inspire me (PRO2)	0.47							
Work hard (PRO3)	0.82							
Determined person (PRO4)	0.90							
Disciplined person (PRO5)	0.87							
Tough (PRO7)	0.69							
Passionate (PRO8)	0.57							
Leadership (PRO9)	0.88							
Never give up (PRO10)	0.75							
Brave (PRO13)	0.40							
Fair player (PRO14)	0.54							
Sportsmanship (PRO15)	0.51							
Desire to win (PRO16)	0.80							
Dedicated athlete (PRO17)	0.80							
Love for game (PRO18)	0.79							
Competitive (PRO19)	0.54							
Strong work ethic (PRO20)	0.61							
Successful player (PRO22)	0.45							
Personality								
Good person (PER1)		0.66						
Personable (PER3)		0.53						
Loving (PER4)		0.72						
Friendly (PER6)		0.69						
Kind (PER7)		0.61						
Generous (PER8)		0.61						
Trustworthy (PER9)		0.63						
Humble (PER10)		0.86						
Responsive to fans (PER11)		0.63						
Fame and Fortune								
High salary (FF2)			0.84					
High social status (FF3)			0.61					
Famous (FF4)			0.54					
Affluent (FF5)			0.56					
Luxurious home (FF6)			0.93					
Expensive car (FF7)			0.88					
Athletic Performance								
Excellent player (AP1)				0.62				
High-level performer (AP2)				0.55				
Best player (AP5)				0.89				
Dominate competition (AP6)				0.79				
Charismatic play (AP7)				0.51				
Exemplary performance (AP8)				0.61				
Community Service								
Giving back (COM3)					0.53			
Help people (COM4)					0.67			
Charitable work (COM5)					0.75			
Donate money (COM6)					0.78			
Community service (COM7)					0.62			
Game Outfit								
Clothing style (PA1)						0.78		
Athletic apparel (PA2)						0.90		
Athletic footwear (PA3)						0.90		
Physical Strength								
Physically strong (PA4)							0.78	
Physically fit (PA6)							0.53	
Powerful (PA7)							0.62	
Morality								
Honest (M1)								0.58
Integrity (M2)								0.57
Honorable (M3)								0.56

The study investigated the criterion validity of the modified sports role model scale. It examined the correlation coefficients between the eight factors of the sports role model construct and the four factors of the self-concept construct (i.e., scholastic competence, athletic competence, physical appearance, and social acceptance). The results indicated that these eight factors of the sports role model construct

are significantly correlated with the four factors of the self-concept construct. The correlation coefficients ranged from 0.20 to 0.37.

In order to verify the convergent validity of the scale, this study examined the Average Variance Explained (AVE) values of each dimension. The AVE values ranged from 0.57 to 0.74, which meet the recommended threshold (0.50). In order to verify the discriminant validity of the scale, this study tested to see if the square root of every AVE value belonging to each sub-construct is larger than any correlation among any pair of sub-constructs. The square root of all the AVE values were larger than all the correlation values among the sub-constructs, except that the correlation value between the professionalism sub-construct and the morality sub-construct was larger than the square root of the AVE value belonging to the professionalism sub-construct. The Cronbach's alpha values of all the eight factors ranged from 0.80 to 0.94, which are above the recommended threshold (0.70).

Table 2. Revised Model's (n = 361) Factor Loading (λ), Cronbach's Alpha (α), and Average Variance Explained (AVE)

FACTOR	λ	α	AVE
Professionalism		.94	.61
Work hard (PRO3)	.82		
Determined person (PRO4)	.73		
Tough (PRO7)	.72		
Leadership (PRO9)	.80		
Never give up (PRO10)	.71		
Desire to win (PRO16)	.83		
Dedicated athlete (PRO17)	.79		
Love for game (PRO18)	.82		
Competitive (PRO19)	.83		
Strong work ethic (PRO20)	.77		
Successful player (PRO22)	.76		
Personality		.93	.64
Good person (PER1)	.78		
Loving (PER4)	.80		
Friendly (PER6)	.85		
Kind (PER7)	.87		
Generous (PER8)	.81		
Trustworthy (PER9)	.78		
Humble (PER10)	.72		
Responsive to fans (PER11)	.74		
Fame and Fortune		.88	.74
High salary (FF2)	.70		
Luxurious home (FF6)	.93		
Expensive car (FF7)	.93		
Athletic Performance		.84	.58
High-level performer (AP2)	.71		
Best player (AP5)	.78		
Dominate competition (AP6)	.78		
Exemplary performance (AP8)	.76		
Community Service		.92	.72
Giving back (COM3)	.82		
Help people (COM4)	.87		
Charitable work (COM5)	.91		
Donate money (COM6)	.85		
Community service (COM7)	.77		
Game Outfit		.88	.72
Clothing style (PA1)	.78		
Athletic apparel (PA2)	.87		
Athletic footwear (PA3)	.89		
Physical Strength		.80	.57
Physically strong (PA4)	.74		
Physically fit (PA6)	.75		
Powerful (PA7)	.77		
Morality		.89	.74
Honest (M1)	.83		
Integrity (M2)	.89		
Honorable (M3)	.86		

DISCUSSION

This current sport role model scale has comprehensively established the eight dimensions of the sports role model construct, such as athletic performance, professionalism, game outfit, physical strength, personality, fame/fortune, community service, and morality on the basis of the rigorous scale development procedure. Therefore, this multidimensional measurement tool can be used to scientifically examine scores of the eight domains which are demonstrated by sports role models and their relationships with the learning and patronage behavior of the young admirers. On the basis of the study findings, sport role model can be defined as the construct which is composed of the eight sub-constructs and positively influences admirers' self-concept development.

Consistent with social learning theory, Korean college student athletes who participated in this study seemed to perceive and learn various on- and off-court behavior of their own professional sports role model. Furthermore, the findings of this study indicated that such perception on the multiple aspects of the sports role models can help these young college students develop the several domains of their self-concept (i.e., scholastic competence, athletic competence, physical appearance, and social acceptance) and become similar to their own sports role model who exemplifies the eight dimensions. Based on these findings, it is suggested that administrators, coaches, and athletes in the professional sport organizations acknowledge this significant role of professional sports role models on college student athletes' life.

The descriptive statistics of the preliminary factor model indicated that athletic performance had the highest mean score ($M = 6.36$; $SD = 0.73$), whereas community service had the lowest mean score ($M = 5.50$; $SD = 1.09$) in the Korean sample. In other words, the highest score of athletic performance might be attributable to learning by heart just for scores in Korean society. On the other hand, the possible reason for the lowest score of community service in the sample was that Korean professional athletes are little involved in the community service. Based on these findings, it is suggested that coaches and administrators in the Korean sports associations help college student athletes balance their school work and athletics, while encouraging professional athletes to give back to the community and establishing more community service programs.

The factor analysis revealed eight dimensions: professionalism, personality, fame and fortune, athletic performance, community service, morality, game outfit, and physical strength. Athletic performance was the most significant aspect that makes high-profile athletes role models. Student athletes watch and learn superior on-court performance of their sport role models to master certain sports skills and improve their athletic performance. Previous research also regarded athletic performance as one of the important domains that sports role models exhibit (Biskup & Pfister, 1999; Bricheno & Thornton, 2007; Feezell, 2005; Fleming et al., 2005; Freedman-Doan & Eccles, 1996; Funk, et al., 2002; Giuliano et al., 2003; Guest & Cox, 2009; Harris, 1994; May, 2009; Vescio et al., 2005; Wilson & Sparks, 1996). Recently, Stephen Curry, who is widely known as the best 3-point shooter in the NBA history, has totally changed the paradigm of the modern basketball (Abbott, 2016). Many young basketball players imitate and practice Curry's prominent three-point shooting technique which led his team to the three-time championships (Abbott, 2016).

Professionalism was also regarded as one of the important dimensions. Professional athletes who work very hard every single day are perceived as good role models for the young generation. The literature supported the importance of professional athletes' professionalism (Biskup & Pfister, 1999; Bricheno & Thornton, 2007; Bush et al., 2004; Feezell, 2005; Fleming et al., 2005; Giuliano et al., 2003; Globus, 1998; Guest & Cox, 2009; Strudler, 2000; Vescio et al., 2005; Wilson & Sparks, 1996). Regardless of winning the championships, hard work and discipline which professional athletes exhibit on a daily basis can have a positive impact on young people's life. For example, Chanhok Park, a former Major League Baseball (MLB) player, never gave up, continued to improve himself in spite of a series of injuries, and consequently broke the record for the most wins by an Asian pitcher with 124 (Terrill, 2012). Such self-discipline and incredible work ethic which he showed throughout his MLB career encouraged young Korean baseball players and college students to work hard (Kim, 2009).

Personality also played an important role in representing sport role models. Professional athletes who have a good personality are perceived to be good role models for young learners. Superior athletes who possess a good personality are loved and praised by many fans and the media (Eisenband, 2010). These findings were consistent with the previous studies (Bricheno & Thornton, 2007; Fleming et al., 2005; Giuliano et al., 2003; McInerney & McInerney, 1998; Rich, 1997; Vescio et al., 2005; Wright et al., 1997). Good relationships with family members, teammates, coaches, fans, and opponents should be one of the crucial aspects for public sports role models. On the contrary, professional athletes who show rude or violent behavior toward opposing players, coaches, and fans cannot become a good role model for young admirers in our society (McLendon, 2016).

Engaging in community service has been established as one of the crucial qualifications for sport role models. Professional athletes pay attention to and speak up on community issues while helping people in trouble because they receive substantial media attention and arouse public interest. The literature also supported this social responsibility aspect of sports role models (Burch & Murray, 1999; Bricheno & Thornton, 2007; Feezell, 2005; Fleming et al., 2005; Globus, 1998; Guest & Cox, 2009; May, 2009). Kevin Durant, an NBA superstar, recently donated \$10 million to support public schools and local students who are in need (Ellis, 2018). As such, the successful professional sports role model who contributes to the community is likely to positively influence their young admirers to work hard and succeed in their field in order to become like their role model.

Morality was also one of the essential aspects of being a good sports role model. These public sports role models should be responsible for living a moral life for their admirers. This moral aspect of sports role models is supported by the literature (Bricheno & Thornton, 2007; Feezell, 2005; Guest & Cox, 2009; Miller Brewing Company, 1983; Vande Berg & Trujillo, 1989; Wright, Wong, & Newill, 1997). The media severely blame the immoral behavior of professional athletes due to their public figure status in society. For example, an NBA legend, Kobe Bryant who is the husband and father in his family was criticized by the media and lost several endorsement contracts when he committed adultery and was prosecuted for sexual assault (Tuchman & Cabell, 2003). He apologized in public and made every effort to perform on and off the court in an excellent manner. In result, he redeemed his previous immature behavior and regained the fame as the

superstar basketball player (Stern, 2016). Professional sports role models who live a moral life can positively influence immature admirers to become an upright and moral citizen.

Fame and fortune were identified as another significant domain. Professional athletes who earn millions of dollars receive the media spotlight and keep their celebrity status. This result was consistent with the sports literature (Assibey-Mensah, 1997; Bricheno & Thornton, 2007; Clark et al., 2001; Fleming et al., 2005; Giuliano et al, 2003; MacCallum & Beltman, 2002; Sinclair, 1997; Strudler, 2000; Vande Berg & Trujille, 1989; Wilson & Sparks, 1996). The media frequently reveal the enormous salaries, luxurious house, and expensive cars of high-profile athletes which ordinary people cannot afford to purchase in their lifetime (Badenhausen, 2018). Furthermore, professional athletes and their games are always at the center of media attention, while highly praising the superior performance in the clutches (Kell, 2016). Observing a successful career and life which their own sports role model enjoys can strongly motivate college student athletes to work hard and obtain their dream job.

However, the hypothesized physical appearance factor was further divided into two dimensions; game outfit and physical strength. This finding seems understandable. On one hand, many high-profile athletes wear their own shoes and uniform with their back number and name. College student athletes are likely to imitate the game outfit of their favorite athlete. For example, basketball players all over the world emulated Michael Jordan's long and wide shorts and jersey with an elbow band and calf sleeve, while wearing Air Jordan basketball shoes (O'Brien, 2015). Furthermore, the NBA has recently changed its basketball shoes policy which allows players to wear colorful sneakers during the game as a way of expressing their individuality (Flores, 2015). On the other hand, professional athletes show off a muscular body and tremendous power on the court. For instance, the NBA superstar, LeBron James is widely known for his incredible workout and physical strength in spite of his old age as a player (Davis, 2018). College student athletes who have their own sports role model are likely to envy such a strong physique and train the body in order to make it strong.

This newly-developed sports role model scale can help both scholars and practitioners comprehensively understand and assess the eight dimensions of the sports role model instrument. For example, sport marketing researchers can utilize the instrument to examine how each dimension influences admirers' purchase intentions for their own sports role model's merchandise and endorsement products, as well as for attendance at (or watching) games. Furthermore, the comprehensive sports role model instrument can allow professional sport league administrators to investigate which aspects of sports role models are perceived to be good or bad by collegiate student athletes. Based on the scores measured by the sports role model scale, administrators could educate and improve upon athletes' weak points. Such systematic evaluation and education on the multiple domains of sports role model behavior can help professional athletes become better role models, while improving the reputation of professional sport leagues.

Professional sport league administrators and sporting goods company marketers have utilized professional athletes for various purposes, such as regular/playoff season promotion videos, back-to-school campaigns, community service events, fan meetings, sports clinics, public service announcements, and endorsement commercials, etc. However, the selection of an appropriate athlete seems to be made intuitively rather than scientifically. This multi-dimensional sports role model instrument can provide the practitioners with scientific evidence to help them choose the most effective sports role models on the basis of relevant dimension scores. For example, it is suggested that league administrators refer to professionalism dimension scores in order to select a proper sports role model when they make films to promote a good work ethic as a way of encouraging young student athletes to study and work hard. It is also suggested that practitioners consider personality dimension scores when they plan to hold fan meeting events. Furthermore, this study suggests that the athletic performance dimension scores be used when choosing athletes who appear in promotional videos for regular season/playoff games. The community service sub-scale could be a good measure for league administrators looking for a sports role model who is eligible to conduct a campaign of community service in order to inspire social consciousness among young people.

Additionally, the current study suggests that sporting goods company marketers who target a young fashion-conscious group could consider game outfit dimension scores as a way of finding an appealing endorser. Moreover, sports drink or supplement company marketers who plan to sell their products to young consumers who want to build up a strong physique could refer to physical strength dimension scores. Finally, administrators creating public service advertisements to educate and prevent immature student athletes from engaging in immoral/criminal activities, such as premarital sex, abortion, smoking, drunk-driving, drug use, and domestic violence, could pay attention to athletes who receive high scores on the morality dimension.

Although this study's findings are significant, it has a limitation. Due to the logistical difficulty of using a random sampling technique for data collection, convenience sampling was used for the sample of South Korean university student athletes. Therefore, the samples utilized may not be representative of the larger population. Thus, the results obtained from the study should be interpreted with caution. In order to enhance external validity, a probability sampling method should be planned and implemented that would increase the sample size in broader geographic regions and other countries.

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