

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/363486137>

Are single-item needs' and values' measures a good alternative to multi-item measures for sport marketers?

Article in *International Journal of Sports Marketing and Sponsorship* · September 2022

DOI: 10.1108/IJSM-11-2021-0225

CITATIONS

0

READS

9

8 authors, including:



Galen T. Trail
Seattle University

106 PUBLICATIONS 5,151 CITATIONS

[SEE PROFILE](#)



Stavros Angelos Triantafyllidis
Keystone College

40 PUBLICATIONS 107 CITATIONS

[SEE PROFILE](#)



Priscila Alfaro-Barrantes

8 PUBLICATIONS 52 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Sport Consumer Behavior (4th ed.). [View project](#)



Sustainability [View project](#)

Are single-item needs' and values' measures a good alternative to multi-item measures for sport marketers?

Single-item
needs' and
values'
measures

Galen Trail

Department of Marketing, Seattle University, Seattle, Washington, USA

Don Lee

University of Houston, Houston, Texas, USA

Stavros Triantafyllidis

Triantafyllidis Sport Academy, Athens, Greece

Jessica Minkove and Ari Kim

Department of Kinesiology, Towson University, Towson, Maryland, USA

Kristi Sweeney and Wanyong Choi

University of North Florida, Jacksonville, Florida, USA, and

Priscila Alfaro-Barrantes

Nichols College, Dudley, Massachusetts, USA

Received 23 November 2021

Revised 3 May 2022

26 June 2022

12 July 2022

Accepted 12 July 2022

Abstract

Purpose – This paper aims to determine if single-item (SI) needs' and values' measures have similar reliability and validity values to multi-item (MI) measures of the same constructs and thus could be substituted by sport marketers to predict internal motivating aspects of sport consumer attitudes and behavior. In addition, the authors wish to determine whether a small subset of needs and values listed in current measures are sufficient to predict sport consumer attitudes and behavior.

Design/methodology/approach – In this two-study design, the first study was a national sample ($N = 439$) comparing reliability and validity of single-item scales to multi-item scales. In the second study the authors collected data from fans and spectators of four different teams ($N_1 = 583$; $N_2 = 1164$; $N_3 = 213$; $N_4 = 404$) to determine the impact of needs and values on sport consumer attitudes and behavior.

Findings – The authors determined that in 89% of the scales, single-item measures of needs and values were just as reliable and valid as their associated multi-item measures. The authors also found that a small subset of the needs and values explain a meaningful amount of variance in sport consumer attitudes and behaviors.

Research limitations/implications – The authors determined that in 89% of the scales, single-item measures of needs and values were just as reliable and valid as their associated multi-item measures. The authors also found that a small subset of the needs and values explain a meaningful amount of variance in sport consumer attitudes and behaviors.

Originality/value – The authors show that as motives for sport consumption, single-item measures of personal needs and values are equivalent to multi-item measures and not all needs and values used in previous sport research are necessary because they do not predict a meaningful amount of variance in sport consumer attitudes and behaviors. The authors identified a small number of single-item measures that practitioners can easily use in short surveys that will predict a statistically meaningful amount of variance in sport consumer attitudes and behaviors.

Keywords Consumer behavior, Values, Motives, Needs, Sport consumer attitudes

Paper type Research paper



Sport marketing practitioners may not be interested in (academic) market research because most academic measurement scales are lengthy and time-consuming (Kwon and Trail, 2005). Braunstein-Minkove and Kim's (2022) findings support this, noting that academic research

primarily supports long-term strategic initiatives, whereas practitioners often seek support for tactical directives that are more accessible through shorter surveys or on-hand data (e.g. on-site observations, gate receipts, click-through rates, CRM database, etc.). Additionally, market research professionals have begun to emphasize the value of shorter surveys, highlighting higher response rates and more quality results (Taylor, 2021).

One way to accomplish this is to use single-item (SI) measures rather than multi-item (MI) measures (Ko *et al.*, 2021). Conversely, Diamantopoulos *et al.* (2012) noted that researchers should exercise caution before employing SI measures for three reasons: (1) SI measures do not always perform as well as MI scales, (2) The response pattern of an item can impact subsequent items due to state dependence and (3) Prior research has not always used the correct statistics when comparing predictive validity. However, SI scales have several benefits including parsimony, ease of administration, flexibility, less monotony, fewer data gathering costs and minimizing respondent refusal. That said, Rigdon *et al.* (2011) noted that no single model or theory about measurement applies in all cases, and thus, one cannot always assume MI or SI measures are better, as it may be situationally specific. This issue (specificity) is our focus as we examine whether personal needs and values, as internal motivators of sport consumer attitudes and behaviors, would be better served using SI or MI measures, similar to how external motivators (e.g. brand associations; Kunkel *et al.*, 2016) have been analyzed.

Several issues directly affect choosing SI scales rather than MI scales that have not been adequately addressed in the literature. First, as Diamantopoulos (2005, p. 4) observed, “if . . . a single ‘good’ item is to be chosen from a set of potential candidates (which implies that other items could, in principle, have been used instead), the question becomes how to choose the ‘best’ (or at least, a ‘good’) item.” Second, specific to our study, scales measuring the internal motivational properties of personal needs and personal values have typically been measured with extensive MI scales (e.g. Lee and Trail, 2011; Schwartz, 1994). Third, when SI needs’ and values’ scales have been developed (e.g. Lindeman and Verkasalo, 2005), they still have lengthy descriptions which may take more time than sport managers and marketers want to spend. Fourth, recently researchers of *external* motivators of sport attitudes and behaviors (e.g. brand attributes) have typically used SI scales (e.g. Kunkel *et al.*, 2016, 2017; among others). Fifth, existing sport management research has shown that many of the needs or values in existing scales were not statistically meaningful internal motivators for sport consumer attitudes or behaviors (Lee and Trail, 2011; Kahle *et al.*, 1986; Trail, 2019). So, perhaps *comprehensive* needs’ and/or values’ MI measures are not needed, and in some circumstances, a much smaller set of SI needs’/values’ measures of sport consumer motivation can provide sufficient information for practitioners. On the other hand, Ko *et al.* (2017) used a very limited set of needs (only 3), indicating that perhaps additional needs could be included. Thus, the purpose of our research is to determine if SI needs’ and values’ measures have similar reliability and validity values to MI measures of the same constructs and thus could be used by sport marketers to predict internal motivating aspects of sport consumer attitudes and behavior. In addition, we wish to determine whether a small subset of needs and values listed in current measures are sufficient to predict sport consumer attitudes and behavior.

Theoretical background

Needs

Maslow’s (1954) theory of motivation is the foundation for his hierarchy of needs. This hierarchy consists of five general categories of needs that motivate people’s behavior: physiological, safety, belongingness, esteem and self-actualization. There have been several attempts to create scales that measure needs, including Lester *et al.* (1983; 50 items), Taormina

and Gao (2013; 72 items), and Winston *et al.* (2017; 12 items, but no self-actualization items). However, as Taormina and Gao noted, most have been troubled by measurement problems.

Within sport consumer behavior research, Trail (2019) identified and incorporated a variety of needs to represent the five different levels in Maslow's (1954) categories. Based on Maslow's (1954) theory of motivation, Trail (2019) proposed that the needs of inner peace, personal growth, aesthetics, wisdom, curiosity and stimulation comprised Maslow's self-actualization category, whereas prosperity, achievement and power comprised the esteem needs category. Trail also suggested that the belongingness level consisted of family togetherness, mature love, companionship and social acceptance, while the safety needs category entailed financial security and personal safety. Finally, he suggested that physical well-being was the only need relevant to sport consumption that represented Maslow's physiological needs category. The definitions of the categories and the different needs are provided in Trail (2022, Table 1).

Values

We use Rokeach's (1973) definition of a value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5) and that "values are multifaceted standards that guide conduct" (p. 13). In Schwartz and Bilsky's (1987) value theory, they noted that needs shape values and Rokeach suggested that needs and values motivate attitudes and behaviors. There have been many scales created to measure values including Rokeach's (1973) 36-item RVS (Rokeach's Values Survey), Braithwaite and Law's (1985) 79-item scale, Schwartz's (1994) 57-item SVS (Schwartz's Values Survey), and Lee and Trail's (2011) 64-item values scale. Like the needs' scales, many of the values' scales have been criticized for their lack of psychometric properties (Lee and Trail).

Trail (2019) proposed using Schwartz's (1994) "motivational types" as categories of values within the sport consumer behavior literature and suggested that each category contained one or more values' measures. Unlike Schwartz's 10 motivational types, Trail (2019) found six types when using an exploratory factor analysis procedure. Within the universalism motivational type, Trail observed the values of democracy, tolerance, environmentalism, social justice and global peace. The benevolence motivational type consisted of the values of openness, work ethic, benevolence and commitment, while the conformity motivational type had self-control, spirituality, conformity and patriotism. The values of pragmatism, freedom and self-direction made up the self-direction motivational type, while competitiveness and hedonism values made up the hedonistic motivational type. The security motivational type only had one value and that was frugality (Trail, 2022, Table 2).

Needs/values related to sport consumer attitudes and behaviors

Within the Revised Structural Model of Sport Consumer Behavior, Trail (2019) hypothesized that personal needs and personal values would influence sport consumer attitudes, intentions and behaviors. This is the only framework that we are aware of that incorporates both needs and values as potential internal motivators of sport consumer attitudes and behaviors. This was based on needs theory (Maslow, 1954) and values theory (Rokeach, 1973; Schwartz and Bilsky, 1987). Furthermore, both needs and values, as internal motivators, have been associated with a variety of sport consumer attitudes (e.g. fan satisfaction, fandom, team identification, Lee and Trail, 2011; Trail, 2019) and behaviors (e.g. TV sports viewership, game attendance, internet use specific to team, etc. Kahle *et al.*, 1986; Ko *et al.*, 2017; Lee and Trail, 2011; Trail, 2019). Specifically, Kahle *et al.* (1986) found that the needs/values of belonging, respect, security, self-fulfillment, accomplishment, excitement, self-respect, fun/enjoyment and relationships predicted 23.7% of the variance in watching sports

Needs	β	SE	<i>t</i>	<i>M</i>
<i>Inner Peace (AVE = 0.545; CR = 0.78; M = 7.80)</i>				
<i>Inner peace – at peace with one's self and life</i>	0.760	0.031	24.317	7.79
Personal harmony – feeling free of conflict within one's self	0.729	0.032	22.732	7.60
Life satisfaction – satisfaction with a life well-lived	0.725	0.033	22.152	8.00
<i>Personal Growth (AVE = 0.673; CR = 0.86; M = 7.72)</i>				
<i>Personal growth – developing emotionally, intellectually, and spiritually</i>	0.851	0.019	44.112	7.73
Self-improvement – developing into a better person	0.767	0.025	30.911	7.75
Individual betterment – growing into the person I want to be	0.840	0.020	41.933	7.70
<i>Aesthetics (AVE = 0.600; CR = 0.82; M = 6.76)</i>				
<i>Aesthetics – being appreciative of beautiful things in life</i>	0.867	0.023	38.369	6.88
Natural beauty – appreciating the natural beauty inherent in the world	0.783	0.026	29.790	7.27
Artistry – enjoying the artistic splendor in life	0.659	0.034	19.575	6.13
<i>Wisdom (AVE = 0.622; CR = 0.83; M = 7.46)</i>				
<i>Wisdom – accumulated knowledge of life gained through experience</i>	0.730	0.027	26.663	7.65
Knowledge – familiarity or understanding gained through experience or study	0.835	0.020	40.757	7.37
Learning – knowledge or skill gained through education or experience	0.798	0.022	35.820	7.66
<i>Curiosity (AVE = 0.611; CR = 0.89; M = 7.07)</i>				
<i>Curiosity – interested in everything, exploring</i>	0.735	0.026	28.480	6.71
Inquisitiveness – eager for knowledge	0.805	0.021	39.063	7.39
Exploring – wanting to learn new things	0.735	0.026	28.578	7.35
Discovering – interested in finding or learning previously unknown things	0.856	0.017	51.350	7.14
Novelty – being interested in new and interesting things	0.769	0.023	33.033	6.75
<i>Stimulation (AVE = 0.649; CR = 0.85; M = 5.05)</i>				
Daringness – courage combined with a willingness to take risks	0.836	0.023	36.714	5.27
Adventurousness – willing or eager to participate in risky or exciting activities	0.781	0.026	30.194	5.54
<i>Challenge – willing to test one's own abilities in a stimulating way</i>				
Risk-taking – willing to do something that involves the possibility of danger or harm	0.798	0.025	32.534	4.37
<i>Prosperity (AVE = 0.731; CR = 0.89; M = 4.27)</i>				
Wealth – having a large amount of money and other valuable things	0.865	0.017	50.365	4.54
<i>Prosperity – having wealth and good fortune</i>	0.823	0.020	40.306	5.18
Affluence – having an abundance of wealth	0.876	0.017	52.685	4.23
<i>Achievement (AVE = 0.566; CR = 0.87; M = 5.51)</i>				
Success – the achievement of something impressive	0.740	0.026	27.962	6.01
Recognition – appreciation from others of personal accomplishments	0.755	0.025	29.654	5.69
Personal status – high standing in a group or society	0.787	0.023	33.879	4.48
Prestige – respect from others associated with high quality	0.708	0.029	24.724	5.57
<i>Achievement – earned social status due to personal merit</i>	0.768	0.024	31.654	5.87
<i>Power (AVE = 0.742; CR = 0.90; M = 3.87)</i>				
<i>Power – having control and influence over other people and their actions</i>	0.905	0.015	61.487	3.36
Dominance – having control or command wielded over others	0.850	0.018	48.102	2.89
Control – exercising power or authority over others	0.827	0.020	41.155	3.95
<i>Family Togetherness (AVE = 0.797; CR = 0.92; M = 7.82)</i>				
<i>Family togetherness – having a family that enjoys each other's company</i>	0.859	0.016	54.003	7.75
Family companionship – having feelings of affection among family members	0.889	0.014	64.431	7.74

Table 1.
Loadings of items on
scales in needs model
and means

(continued)

Needs	β	SE	t	M
Family support – having a family that takes care of each other	0.929	0.011	81.736	7.91
<i>Mature Love (AVE = 0.688; CR = 0.87; M = 7.54)</i>				
<i>Mature love – having a romantic relationship of deep and lasting affection</i>	<i>0.923</i>	<i>0.015</i>	<i>60.574</i>	<i>7.58</i>
Monogamy – having a committed loving relationship with only one individual	0.693	0.029	23.715	7.51
Intimacy – having a deep emotional, loving, intimate relationship with another	0.855	0.018	46.700	7.52
<i>Companionship (AVE = 0.568; CR = 0.84; M = 7.26)</i>				
<i>Companionship – the establishment and maintenance of social relationships</i>	<i>0.780</i>	<i>0.024</i>	<i>32.976</i>	<i>7.40</i>
Fellowship – friendly association of a group of like-minded people	0.712	0.028	25.402	6.89
True friendship – the mutual feelings of trust and affection between friends	0.696	0.030	23.507	7.85
Camaraderie – a feeling of close friendship and trust among a group	0.820	0.021	39.741	6.87
<i>Social Acceptance (AVE = 0.573; CR = 0.80; M = 6.46)</i>				
Sense of belonging – feelings that others care about me	0.740	0.028	26.224	7.23
<i>Social acceptance – feelings that I belong in a group or groups</i>	<i>0.758</i>	<i>0.028</i>	<i>27.500</i>	<i>5.80</i>
Inter-Connectedness – feelings of connection with a social group	0.773	0.027	29.124	6.33
<i>Financial Security (AVE = 0.694; CR = 0.87; M = 7.03)</i>				
<i>Financial security – being secure in my personal financial standing</i>	<i>0.843</i>	<i>0.021</i>	<i>40.562</i>	<i>7.46</i>
Financial stability – being confident that my personal financial situation is stable	0.871	0.021	38.725	7.10
Fiscal strength – being sure that my fiscal standing is strong	0.782	0.024	31.945	6.51
<i>Personal Safety (AVE = 0.789; CR = 0.92; M = 7.58)</i>				
<i>Physical safety – feeling safe and sound</i>	<i>0.837</i>	<i>0.018</i>	<i>47.067</i>	<i>7.71</i>
Individual safety – feeling out of harm's way	0.916	0.012	75.545	7.46
Personal safety – feeling protected and secure	0.910	0.012	72.961	7.54
<i>Physical Well-Being (AVE = 0.640; CR = 0.84; M = 7.14)</i>				
<i>Physical fitness – being physically fit, in shape</i>	<i>0.911</i>	<i>0.019</i>	<i>47.641</i>	<i>6.79</i>
Physical activeness – being physically active, full of energy	0.824	0.022	37.600	6.68
Healthy – being healthy in body and mind	0.641	0.034	18.966	7.89
Note(s): $\chi^2/df = 2.14$, CFI = 0.903, RMSEA = 0.054 (CI = 0.051–0.057), SRMR = 0.064. Italics indicate “content validity” item				

Table 1.

programs on TV and around 18% of reading sport magazines. Lee and Trail (2011) determined that patriotism, ambition, conservatism and social equality (negatively) were correlated with general sport fandom, team identification and televised sports viewing, among others, while Ko et al. (2017) showed that need for arousal and affiliation were related to sport spectating. Similarly, Trail (2019) found that need for stimulation, achievement, social acceptance and family togetherness, along with the values of patriotism, environmentalism (negative), competitiveness and hedonism were related to sport fandom. In most of the above research though, needs and values have been measured with MI constructs. However, practitioners seek constructs that are operationalized with short SI measures to explain sport consumer attitudes and behaviors.

Measurement theory

Traditional measurement theory suggests that MI scales are more appropriate than SI scales due to greater reliability and better construct validity (DeVellis, 2003) because multiple items are more likely to represent the true score of any unobservable construct. Churchill and Peter (1984) noted having multiple items entails a common core among the items, and yet still

Values	β	SE	T	M
<i>Democracy (AVE = 0.503; CR = 0.75; M = 6.85)</i>				
Democracy – the equal right of everyone to participate in a system of government	0.779	0.028	27.854	7.38
<i>Governance by the people – the right for all to participate in their own governance</i>	0.707	0.032	21.918	6.79
Rule by the majority – electing representatives by the majority of the people	0.632	0.036	17.337	6.41
<i>Tolerance (AVE = 0.568; CR = 0.84; M = 7.17)</i>				
Open-mindedness – being free from prejudice and receptive to new ideas	0.777	0.024	31.805	7.57
<i>Tolerance – accepting differing views of other people and treating them fairly</i>	0.812	0.022	36.699	7.34
Non-judgmental – not judging or criticizing the ideas or conduct of other people	0.698	0.030	23.198	6.73
Broadmindedness – willing to accept many different types of ideas and behavior	0.723	0.028	25.570	7.06
<i>Environmentalism (AVE = 0.806; CR = 0.94; M = 6.79)</i>				
Conservationism – preventing the destruction of nature's resources	0.905	0.011	81.197	6.85
<i>Environmentalism – protecting the environment</i>	0.942	0.008	112.41	6.75
Nature preservation – safeguarding nature's assets	0.880	0.013	67.161	6.94
Ecological harmony – creating harmony with nature	0.861	0.015	58.581	6.62
<i>Social Justice (AVE = 0.602; CR = 0.86; M = 7.56)</i>				
Human dignity – all people deserve to be treated with respect and honor	0.762	0.024	31.741	7.82
Human rights – the right for everyone to be treated in a just and equal manner	0.846	0.018	46.911	6.70
<i>Social justice – fair and dignified treatment of all people within society</i>	0.775	0.023	33.656	7.60
Social equality – equality among all social classes	0.716	0.027	26.293	7.10
<i>Global Peace (AVE = 0.710; CR = 0.88; M = 7.19)</i>				
<i>Global peace – freedom from war and conflict</i>	0.835	0.019	43.243	7.26
International harmony – nations working together to help each other out	0.879	0.016	53.863	7.00
Worldwide stability – security and safety throughout the world	0.812	0.021	38.604	7.34
<i>Openness (AVE = 0.568; CR = 0.84; M = 8.02)</i>				
Trustworthiness – deserving of trust, or being able to be trusted	0.743	0.026	28.386	8.20
<i>Sincerity – being honest in the expression of true or deep feelings</i>	0.705	0.029	24.384	7.78
Truthfulness – telling the truth or tending to tell the truth	0.750	0.026	28.959	7.96
Honesty – being fair, truthful, and morally upright	0.812	0.022	37.597	8.12
<i>Work Ethic (AVE = 0.549; CR = 0.86; M = 7.29)</i>				
Hard-working - tending to work industriously	0.825	0.020	40.347	7.29
<i>Industriousness – being hard-working, conscientious, and energetic</i>	0.809	0.022	37.367	7.33
Determination – being firm of purpose, will, or intention	0.639	0.033	19.166	7.27
Diligence – being persistent and hard-working	0.786	0.023	34.198	7.53
Perseverance – maintaining a steady and continued action or belief	0.621	0.035	17.984	7.04
<i>Benevolence (AVE = 0.566; CR = 0.84; M = 7.66)</i>				
<i>Kindness – being sympathetic and compassionate</i>	0.833	0.020	41.546	7.93
Courtesy – being polite or considerate of another person	0.697	0.030	23.628	7.83
Helpfulness – providing assistance, information, or other aid	0.811	0.022	37.638	7.60
Generosity – willing to give money, help, or time freely	0.653	0.032	20.163	7.30
<i>Commitment (AVE = 0.750; CR = 0.92; M = 7.51)</i>				
<i>Commitment (to another) – being devoted or dedicated to another</i>	0.861	0.016	54.015	7.33
Dedication (to another) – being committed and faithful to another	0.905	0.013	71.338	7.54

Table 2.
Loadings of items on scales in values model and means

(continued)

Values	β	SE	T	M
Devotion (to another) - feelings of love and commitment toward another	0.864	0.016	54.935	7.54
Faithfulness (to another) – being consistently loyal to another	0.832	0.018	45.662	7.60
<i>Self-Control (AVE = 0.549; CR = 0.86; M = 6.98)</i>				
<i>Self-control – controlling your own behavior, especially reactions and impulses</i>	0.755	0.025	30.521	7.28
Self-discipline – doing what is necessary without needing to be urged by others	0.689	0.030	22.946	7.39
Self-restraint - holding back, limiting, or controlling one's own behavior	0.829	0.020	41.768	6.78
Moderation – not being excessive or extreme	0.652	0.032	20.552	6.70
Temperance – showing self-restraint in the face of temptation	0.768	0.024	31.818	6.73
<i>Spirituality (AVE = 0.777; CR = 0.91; M = 5.81)</i>				
<i>Spirituality – relating to the soul or spirit, usually in contrast to material things</i>	0.767	0.023	33.975	6.25
Religiousness – believing in and showing devotion or reverence for a deity or deities	0.925	0.012	78.776	5.50
Devoutness – feeling deeply religious or committed to a particular spiritual interest	0.942	0.011	85.622	5.67
<i>Conformity (AVE = 0.552; CR = 0.83; M = 5.29)</i>				
Conventionality – conforming to socially accepted customs of behavior or style	0.833	0.022	38.718	4.81
Compliance – conforming with or agreeing to do something	0.693	0.030	22.904	5.15
Traditionalism – respecting cultural, social or religious practices	0.602	0.037	16.102	6.37
<i>Conformity – behaving or thinking in a socially acceptable or expected way</i>	0.819	0.022	36.804	4.83
<i>Patriotism (AVE = 0.875; CR = 0.95; M = 6.11)</i>				
Nationalism – being proudly loyal and devoted to a nation	0.903	0.011	84.064	5.93
Loyalty to country – feeling devoted or feeling a sense of duty to a country	0.951	0.007	131.386	6.19
<i>Patriotism – being a proud supporter/defender of one's country and its way of life</i>	0.952	0.007	131.795	6.22
<i>Self-Direction (AVE = 0.495; CR = 0.79; M = 7.09)</i>				
Self-sufficiency – being able to manage independently from others	0.758	0.027	28.273	7.18
<i>Self-direction – acting through one's own beliefs and not others'</i>	0.600	0.037	16.046	7.30
Independence – operating alone, not dependent on somebody or something else	0.666	0.033	20.124	7.76
Self-reliance – relying on one's own abilities and not someone else or something else	0.775	0.027	29.011	7.12
<i>Freedom (AVE = 0.462; CR = 0.72; M = 7.29)</i>				
<i>Freedom – being able to act and live as one chooses, without undue restraints</i>	0.546	0.044	12.525	7.33
Liberty – the freedom to think or act without being constrained by necessity or force	0.746	0.035	21.032	7.49
Autonomy – the capacity to act on decisions without others limiting choices	0.729	0.035	20.683	7.06
<i>Competitiveness (AVE = 0.429; CR = 0.75; M = 5.02)</i>				
<i>Competitiveness – the process of trying to win or do better than others</i>	0.703	0.034	20.942	5.16
Ambitiousness – strong feelings of wanting to achieve more than others	0.646	0.037	17.508	5.71
Aggressiveness – tendency to make the first move, to attack	0.661	0.036	18.564	3.59
Assertiveness – being forcefully strong relative to others	0.606	0.039	15.570	5.61

(continued)

Single-item
needs' and
values'
measures

Table 2.

Values	β	SE	T	M
<i>Pragmatism (AVE = 0.585; CR = 0.85; M = 7.43)</i>				
<i>Rationality – thinking clearly/sensibly, based on reason, not emotion or prejudice</i>	0.781	0.024	33.129	7.31
Reasonableness – being sensible and capable of making rational judgments	0.811	0.021	37.995	7.63
Practicality – being appropriate, sensible, and effective	0.681	0.030	22.339	7.11
Sensibility – having or demonstrating sound reason and judgment	0.780	0.024	32.712	7.70
<i>Hedonism (AVE = 0.613; CR = 0.86; M = 4.10)</i>				
Self-indulgence – pursuing one’s own pleasure or satisfaction without restraint	0.797	0.022	35.974	4.15
Sensuous gratification – enjoying pleasurable stimulation of the senses	0.558	0.038	14.682	5.25
<i>Hedonism – being devoted to pleasure as a way of life</i>	0.841	0.019	43.847	3.66
Decadence – being uninhibited in the pursuit of self-indulgence	0.893	0.016	55.556	3.31
<i>Frugality (AVE = 0.683; CR = 0.86; M = 6.48)</i>				
<i>Frugality – spending very little money and only on things that are really necessary</i>	0.859	0.019	44.572	6.02
Thriftiness – managing money and resources in a cautious way so as not to waste	0.688	0.030	22.778	7.10
Financial conservativeness – spending money only on the necessities	0.916	0.017	52.618	6.39
Note(s): $\chi^2/df = 2.12$, CFI = 0.869, RMSEA = 0.053 (CI = 0.051–0.056), SRMR = 0.066. Italics indicate “content validity” item				

Table 2.

having the unique contribution of each. Specifically, [Bergkvist and Rossiter \(2007\)](#) argued that multiple-item measures provide more information than SI measures, thus potentially creating a more “discriminating response scale” (p. 176) because MI scales provide a much larger potential response pattern and a greater number of potential total scores. [Kamakura \(2015\)](#) agreed, noting that only MI scales can represent the “entire domain of the construct” (p. 239) because they provide greater breadth and depth of a measure of a construct (cf., [Jordan and Turner, 2008](#); [Kwon and Trail, 2005](#)). If correct, then MI scales should show better criterion validity than SI measures. Even though [Churchill \(1979\)](#) suggested that “marketers are much better served with multi-item than single-item measures of their constructs, and they should take the time to develop them” (p. 66) back in 1979, his comment is still indicative of current thinking and summarizes more recent research quite succinctly.

Single-item theory

[Rossiter \(2002\)](#) proposed that if an object can be conceptualized as concrete and singular then it does not need multiple items to represent that domain. Furthermore, [Ang and Eisend \(2018\)](#) argued that the attribute must be “double concrete” denoted by “a singular meaning (i.e. is unidimensional), and the object being rated also is clear and unambiguous to the person doing the rating” (p. 219; e.g. advertisement attitude, brand attitude, and purchase intentions). [Bergkvist and Rossiter \(2007\)](#) argued that MI scales, wherein items representing the construct are synonymous, could potentially be reduced to SI measures, which would also reduce the possibility of common method bias (CMB). “Common methods bias occurs when the correlation between two or more constructs is inflated because they were measured in the same way . . . [and] could occur within the multiple items of a multiple-item measure and, incidentally, would inflate its coefficient alpha” ([Bergkvist and Rossiter, 2007](#), p. 177). [Diamantopoulos et al. \(2012\)](#) extended this argument by suggesting that “single items appear to be a reasonably safe bet when rather weak effects are expected (i.e. cross-item correlations

less than 0.30) . . . , (w)hen inter-item correlations are above 0.80 or the construct's alpha values are higher than 0.90" (p. 444). Furthermore, [Stebbins \(2001\)](#) argued that SI measures are a viable option when smaller samples and weaker effect sizes are expected; a typical exploratory research situation.

[Ang and Eisend \(2018\)](#) conducted several meta-analyses and found that "studies that used a single-item scale did not differ from those that used multi-item scales in their effect size" (p. 222). They also found that the number of items in a DV measure of attitude did not increase the variance explained by IVs. Furthermore, within sport research, multiple authors have found support for SI measures in event quality ([Ko et al., 2021](#)), team identification ([Kwon and Trail, 2005](#)), service quality ([Kwon and Ko, 2006](#)), organizational justice ([Jordan and Turner, 2008](#)) and psychological commitment ([Kwon and Trail, 2005](#)), among others. Thus,

RQ1. Do SI needs' and values' measures, as internal motivators for sport consumption attitudes and behaviors, have adequate and similar reliability and validity compared to MI measures of the same constructs?

Choosing single-item measures

[Diamantopoulos et al. \(2012\)](#) suggested that there are five different options on how to choose a single item measure (p. 436):

- (1) Randomly choose an item from a multi-item measure.
- (2) Choose an item based on face validity.
- (3) Have a panel of experts choose an item based on content validity.
- (4) Choose an item based on statistical criteria.
- (5) Create an item distinct but similar to any item in the multi-item scale.

Each of these options has positives and negatives. Randomly choosing an item from the MI scale follows [Churchill and Peter's \(1984\)](#) recommendation, despite [Jöreskog's \(1971\)](#) argument that items vary from each other and some may have more measurement error than others. [Diamantopoulos et al. \(2012\)](#) was not in favor of this option due to the *unlikelihood* of picking the "best" item (p. 436). [Stanton et al. \(2002\)](#) also noted that due to contextual differences in data collection, "random" items may not have similar concurrent validity across data sets.

Although [Bergkvist and Rossiter \(2007\)](#) and [Nunnally and Bernstein \(1994\)](#) promoted the face validity option, [Diamantopoulos et al. \(2012\)](#) noted that if the MI scale is unidimensional, then no item should be better than another; thus, all items should have face validity.

[Rossiter \(2002\)](#) suggested that having a panel of experts choose an item that best defines the construct has the advantage of empirical agreement of expert judges. However, [Diamantopoulos et al. \(2012\)](#) noted that the issue of "why the chosen item is better than the rest of the items is still not addressed" (p. 436) and [Chi et al. \(1988\)](#) suggested that there is evidence that even expert panels can choose incorrectly.

The fourth option is to choose one item from a MI scale based on some pre-established statistical criteria, such as its reliability or communalities. Similar issues to those above exist here as well. These loadings (communalities) or reliabilities may vary across data sets ([Diamantopoulos et al., 2012](#)).

For the fifth option, although [Diamantopoulos et al. \(2012\)](#) suggested that creating a new distinct item that is "tailor-made" for a SI scale could be an option, they contradict this supposition by noting that it "is unclear what additional benefit would be gained by generating extra (i.e. 'stand-alone') SI [single-item] measures" (p. 436).

Based on the above information, we chose Options 3 and 4 as the best processes to evaluate which items in each MI scale might appropriately work for SI measures based on [Diamantopoulos et al.'s \(2012\)](#) and [Rossiter's \(2002\)](#) arguments above which indicate that of the five options, these two are the most likely to be best. Thus,

RQ2. Which item, out of the MI measure for each construct, would work best in a SI measure?

Study 1

Sample/procedure

To answer these research questions, we collected information from a US national sample using a paid Qualtrics panel. The only inclusion criteria were respondents had to be over 18 and there needed to be a US national representation. Only those who completed at least 95% of the survey and were deemed not to have pattern response violations ([Malhotra, 1999](#)) were included in the initial analysis ($N = 439$). Of those, 392 people completed all the items relevant to this analysis with 62.6% self-identifying as female and 27.3% self-identifying as male. The average age was 42.7 years old. Of those who self-identified their race, 70% identified as white, 4% Black, 4% Asian, 4% Hispanic/Latino and 5% multiracial.

Instrument

We identified approximately 170 items from needs' and values' measures in the anthropology, sociology, political science, psychology and marketing literature (See [Tables 1 and 2](#) in [Trail, 2022](#), for sources) that could be either needs' items or values' items based on the definition and categorization described by [Trail \(2019\)](#). We proposed a 16-dimension needs' scale (the Needs Typology Survey – NTS) and a separate 19-dimension values' scale (the Values Typology Survey – VTS). Each NTS and VTS subscale was represented by an array of items. For example, the *Stimulation* need was represented by items such as *daringness*, *adventurousness*, and *risk-taking*, whereas the *Social Justice* value was represented by items such as *human dignity*, *human rights*, *social justice* and *social equality*. We contacted 22 researchers who had studied needs and/or values and asked them to provide feedback as to the content validity of all the items. We provided conceptual definitions of the needs' and values' constructs to the panel of experts ([Trail, 2022, Table 1](#) for Needs; [Trail, 2022, Table 2](#) for Values). In addition, we supplied the items associated with each construct that represented each subscale ([Table 1](#) for Needs; [Table 2](#) for Values). Utilizing Option 3 from [Diamantopoulos et al. \(2012\)](#), we asked the researchers to rate content-relevance of the items in terms of domain representativeness using a five-point scale: (1) Poor Match, (2) Fair Match, (3) Good Match, (4) Very Good Match and (5) Excellent Match. The item in each scale that had the highest cumulative “domain representativeness” score determined by the mean of the panel of experts' ratings was designated the “content-validity” item, which potentially could be used for an SI scale. Based on the panel's feedback, we eliminated 36 items that were redundant or could not be specified into one typology or the other. We pilot tested the remaining items on a sample of 48 college students to reduce the number of items. Using the results of item-to-total correlations, we retained 58 needs' items for 16 NTS subscales and 72 values' items for 19 VTS subscales.

From the national sample, respondents rated each need on a scale modified from [Schwartz's \(1994\)](#) nine-point response format (–1 = Opposed to my Needs to 7 = Of Supreme Importance). We used Schwartz's nine-point response format for values (–1 = Opposed to my Values to 7 = Of Supreme Importance).

To assess criterion (concurrent) validity of the needs' and values' items, we included a sport fandom item “*I consider myself to be a sport fan*” from [Lee and Trail \(2011\)](#), a brand

loyalty item “*I’m extremely loyal to a particular brand (e.g. Target, Nike, Coke, QFC, etc.)*” modified from [Beatty and Kahle \(1988\)](#) and a community attachment item “*I feel connected to numerous aspects in my community*” created by [Kim and Trail \(2010\)](#) for the Points of Attachment Index (PAI) which examines aspects of why people choose to be sport fans (i.e. attachment to the community comprises a part of being a fan of teams in that community). These items (or similar) have been used before in assessing relationships with needs and values ([Kahle et al., 2001](#); [Lee and Trail, 2011](#); [Trail, 2019](#)) and all used a seven-point Strongly Disagree (1) to Strongly Agree (7) scale.

Single-item
needs’ and
values’
measures

Results

The items and scales were normally distributed with no outliers. Using Mplus, we found the CFA model for the NTS fit the data well ($\chi^2/df = 2.14$, CFI = 0.903, RMSEA = 0.054, SRMR = 0.064; cf. [Hu and Bentler, 1999](#)) after four items had been removed from the analysis due to low loadings or cross loadings. Similarly, the CFA for the VTS fit well ($\chi^2/df = 2.12$, CFI = 0.869, RMSEA = 0.053, SRMR = 0.066). The CR coefficients for all 35 of the needs’ and values’ scales exceeded 0.70 and the AVE values all exceeded 0.500, indicating more common variance than unique variance ([Tables 1 and 2](#)), except for Self-Direction (0.495), Freedom (0.462) and Competitiveness (0.429) values. We were not overly concerned about the AVE values for the first two scales as the CR values were fine and in the case of Self-Direction, the AVE value was close to the cut-off. However, for the Competitiveness scale, although the competitiveness item was the highest loader, indicating that it had the largest commonality of the four items, the remaining three items loaded in the 6s, showing that they had more unique variance than common variance. In the future this should be examined to see if these items represent a different construct from competitiveness. In the NTS, there were only 2 discriminant validity issues out of 140 comparisons (where the squared correlation between two constructs exceeded the AVE value for either construct; [Trail, 2022](#), Table 3). In the VTS, there were 4 discriminant validity violations out of 171 comparisons ([Trail, 2022](#), Table 4). These issues should be investigated in future studies of MI needs’ and values’ scales.

The Cronbach’s alpha coefficients for the needs’ scales are reported in [Trail \(2022, Table 5\)](#) as are the Pearson correlation coefficients between the scale and each item in the scale. The estimated reliability of the single items, based on the correction for attenuation formula ([Nunnally and Bernstein, 1994](#), p. 257), are also reported in [Trail \(2022, Table 5\)](#), as are the criterion validity measures of both the scales, and of all items within the scales, determined by the correlation coefficients between the scales, the items and the criterion measures of brand loyalty, attachment to the community and level of sport fandom. The *t*-score difference values between the scale correlations and the item correlations are also reported in [Trail \(2022, Table 5\)](#). Based on Option 4 from [Diamantopoulos et al. \(2012\)](#), we evaluated the virtues of the scale versus the content validity item, and all of the other items within the scale, by comparing reliability measures (substantial differences >0.1), item to total correlations (>0.1), and correlations with the criterion validity measures (must have a significant and meaningful correlation – more than 4% of the variance explained; cf., [Cohen, 1988](#)). To establish preference of scale or item, one or the other must have a preponderance of the data supporting that result, otherwise, we concluded that no preference could be made. The same analyses were replicated for the values’ scales in [Trail \(2022, Table 6\)](#).

Interpretation of results

Within the needs’ categories, evidence for using the scale over the content-validity item was present in only two categories (Curiosity and Stimulation). Conversely, Aesthetics and Social Acceptance showed that the content-validity item was preferred over the scale. There was

insufficient evidence for the remaining 12 categories to choose either the scale or the content-validity item. In no instance was an item other than the content-validity item substantially better across all assessments, showing that if an SI measure were to be used, the content-validity item was the best item (Option 3 from Diamantopoulos *et al.*, 2012). Although all of the 16 needs categories and all 16 of the content validity items were *significantly* related to at least one of the criterion measures, only 7 of the 16 needs' categories explained more than 4% shared variance in at least one of the criterion validity measures. Of those seven, the SI measures explained a similar amount of variance as the scale measures except in two instances (Power and Social Acceptance), where the positive significant *t*-values showed that the scales explained a significantly larger amount of variance than the associated content-validity item. In the remaining five categories (Curiosity, Stimulation, Prosperity, Achievement and Companionship), the items explained an equivalent amount of variance.

Within the values' categories, evidence for using the scale over the content-validity item was present in only two of the categories (Spirituality and Patriotism), whereas only one category showed evidence in favor of using a content-validity item (Compete1) over the scale (Competition). In all the other 16 categories, there was not sufficient evidence to choose one or the other. In no instance was an item other than the content-validity item substantially better across all assessments (supporting Option 4 from Diamantopoulos *et al.*, 2012). Although 17 out of the 19 values categories and 17 of the content validity items were *significantly* related to at least one of the criterion measures, only 5 of the 19 values categories explained more than 4% shared variance in at least one of the criterion-validity measures. Of those five, SI measures explained a similar amount of variance as scale measures in three instances (Self-control, Conformity and Hedonism). The positive significant *t*-value showed that only one scale explained significantly more variance than the associated content-validity item (Patriotism). In the other category (Competition), the item explained a significantly larger amount of variance.

Based on the above evidence, because SI measures were sufficiently equivalent or better than the MI scales in 31 of the total 35 scales, the practicality and potential time-savings for practitioners outweighed the slight benefits of using MI scales in four categories. However, we decided to collect a second set of data, this time specifically from sport fans and spectators, to test whether we could replicate and extend the above evidence. Thus, the purpose of Study 2 was to make sure that not only would SI scales continue to adequately explain a *significant* amount of variance in a variety of criterion validity variables, and in a majority of instances, but also, those variances would be *meaningful* (*cf.*, Cohen, 1988) in data collected from sport fans and spectators. This would also potentially indicate which needs' and values' categories did *not* explain a meaningful amount of variance in potential sport consumer attitudes and behaviors and thus would not have to be included in measurement instruments for practitioners. This leads to [Research Question #3](#) to be examined in Study 2.

RQ3. Are all the SI measures of needs and values relevant to sport consumer attitudes and behavior?

Study 2

Sample/procedure

We collected data from fans and spectators of four different teams (two minor league baseball teams—MiLB, an NBA team and an NFL team) in order to expand the breadth of the data and generalizability of our results. Data recruitment methods varied across the different teams with two of the teams allowing us to email the Qualtrics survey link to people in their database. The third team emailed the link out to people in their database and posted the link on their social media sites. We collected data from fans and spectators of the fourth team by posting the link on fan websites and by having students from a local university actively recruit people to fill out the online survey.

MiLB Team A had 583 people fully complete the survey, and MiLB Team B had 1164. Team C (the NFL team) had 213 people fully complete the survey and the NBA team (Team D) had 404.

Single-item
needs' and
values'
measures

Instrument

We used the 16 needs' SI measures and the 19 values' SI measures (Trail, 2022, Table 7) identified in Study 1. We modified the sport fan item slightly because we were surveying sport fans spectators and not the general public, and thus did not want to get a ceiling effect ("Being a sport fan is *very* important to me"). The community attachment item was the same except that we specified the community for each designated team. The brand loyalty item was also modified to focus on the team brand rather than brands in general ("I am loyal to the (team name) brand regardless of the situation"). Furthermore, we added four additional items to use as additional criterion validity measures: fan lifestyle, team attachment (from the Team Identification scale; Trail *et al.*, 2003), attendance intentions, and TV watching intentions (team games) (both from the Intentions for Sport Consumption Behavior Scale (Harrolle *et al.*, 2010). The lifestyle item is an item we created for this data collection "My life revolves around being a fan of (Team Name)" and was an attempt to tease out those individuals who were extremely loyal to the team. All these items were rated on a seven-point Strongly Disagree (1) to Strongly Agree (7) scale.

Results and interpretation

The items were normally distributed with no outliers for all the needs' and values' items for all four teams. Similarly, all the criterion validity items were also normally distributed, with the exception of the Intentions to Attend item for both of the minor league baseball teams. This item was substantially skewed and leptokurtic, with 94% of the respondents indicating a 6 or 7 on the scale for MiLB Team A and 89% for MiLB Team B. This indicates a potential ceiling effect for any relationship analyses that included this item for these two teams (Trail, 2022, Table 7).

We used backward-stepwise regression analyses as per Field (2009) to reduce the possibility of suppressor effects that might occur in a forward-stepwise analysis. The backward regression allowed us to determine which of the needs and values were associated with the criterion-validity variables and showed how much variance they explained combined, as well as the unique effect (beta values) each had. We ran seven separate regressions (one for each dependent—criterion—variable) for each of the four teams (Trail, 2022, Table 8).

When all the needs' and values' items were included in the analysis, they explained anywhere from 8% to 31% of the variance in the DVs. When those needs and values that did not contribute a significant amount of variance in a DV were eliminated, then the amount of variance explained was reduced to 4.5% to 23%, again depending on the DV and the team (Trail, 2022, Table 8).

We established the benchmark of 3% of the variance explained in each of the DVs (criterion-validity measures) representing that each of the items (needs or values) must have a significant and meaningful beta value in the regression (*cf.*, Cohen, 1988). This 3% was more rigorous than in Study 1 because the beta values represent the unique relationship with the DV, whereas in Study 1, we used bivariate correlations which are typically larger because they include any common variance. To determine whether the need or value item should be retained, a preponderance of the results across the teams and the DVs needed to show a significant and meaningful relationship, otherwise, our conclusion was that the item should not be included in sport practitioners' market research survey. We established that

a “preponderance of evidence” equated to meaningful results (3% of the variance explained) in at least 4 of the DVs *and* a minimum of 2 of the teams. Based on the above criteria, we determined that only two needs (Family Togetherness, Financial Security) and only six values (Environmentalism, Social Justice, Patriotism, Self-direction, Competitiveness and Hedonism) should be included in a practitioners’ scale (Trail, 2022, Table 8).

Discussion and limitations

The objective of this research was threefold: (1) Determine if SI needs’ and values’ measures have similar reliability and validity values to MI measures of the same constructs; (2) Determine which item out of the MI measure for each construct would work best and ; (3) Determine if all the needs and values listed in the scales are relevant to sport consumer attitudes and behavior. Based on the answers to the above research questions, we wanted to determine if we could create a short, valid and reliable, measure of needs and values that would help sport practitioners in their market research endeavors.

In Study 1, using Options 3 and 4 from Diamantopoulos *et al.* (2012), we determined that in 89% of the scales SI measures of needs and values were just as reliable and valid as their associated MI measures. However, we also found that although most items *or scales* had criterion validity with designated sport consumer variables (Sport Fandom, Community Attachment and Brand Loyalty) at a significant level, many did not have a *meaningful* correlation (*cf.*, Cohen, 1988). In fact, only 7 needs and 5 values had a shared variance greater than 4% with at least one of the criterion validity variables. This indicates that regardless of use of MI or SI scales, many needs and values did not explain a moderate amount of variance with sport consumer related variables (as per Cohen, 1988).

These results led us to assess this issue in Study 2, in which we found that all of the needs’ and values’ SI measures identified in Study 1 did, in fact, explain a significant amount of variance in at least one of the criterion-validity items included in Study 2 (Sport Fandom, Community Attachment, Brand Loyalty, Lifestyle, Team Attachment, Attendance Intentions and TV Watching Intentions) in at least one of the four data sets. However, many of these significant beta values were not meaningful; that is, they did not explain at least 3% of the *unique* variance in at least four of the DVs and in at least 2 of the 4 teams included in Study 2 (our predesignated benchmark for a preponderance of evidence).

Unfortunately, none of the SI measures of needs accepted in Study 1 (Curiosity, Stimulation, Prosperity, Achievement, Power, Companionship and Social Acceptance) overlapped with those accepted in Study 2 (Family Togetherness, Financial Security). This could be interpreted in several different ways. First, this lack of overlap could be due to the different types of analyses used (bivariate correlations in Study 1 vs. regression—beta values—Study 2: the beta values in Study 2 do not include any potential shared variance from other IVs as this has been partialled out, whereas in the bivariate correlations in Study 1, those correlations inherently include any shared variance with other IVs.). Second, it could be the different types of samples. In Study 1, the respondents were not necessarily sport fans, whereas in Study 2, all the respondents were at least sport fans or spectators. Third, we included additional criterion validity variables in Study 2 that were specific to the respondent’s own team. That said, the needs that were meaningful predictors in Study 1, certainly make sense and were significantly correlated with the criterion validity variables in some instances in Study 2, although not necessarily meaningfully. People seeking information about sport teams could certainly be termed curious, thus the inclusion of this need fits. Similarly, need for stimulation certainly could be fulfilled by consuming sport or being a sport fan and supports prior research by Ko *et al.* (2017) and Trail (2019) that this need is a motivator. Need for achievement has historically been a foundation of the rationale for sport fandom, although typically vicariously (Trail and James, 2001), but Ko *et al.* (2017),

Kahle *et al.* (1986), and Trail (2019) all found that need for achievement (non-vicarious) did impact sport spectating. Similarly, the need for companionship is also a foundation for the social interaction premise of fandom as is the need for social acceptance (Wann, 1995), which also supports the research by Ko *et al.* (2017) and Trail (2019). The needs for prosperity and power have less historical relevance to sport consumerism (Trail, 2019), so their inclusion was a bit surprising. The need for prosperity might be related to fandom due to the potential costs for being a fan now-a-days, from attending, to streaming, to buying merchandise, etc. Fans need to be relatively well-off to afford to be a fan. As the need for power (having control and influence over others and their actions) increased, brand loyalty and sport fandom increased. This may mean that loyalty and fandom fulfilled that need, especially referent to others outside the in-group of fans, but this is pure supposition.

From Study 2, the need for family togetherness supports Wann's (1995) findings and Trail's (2019) results that sport fans are slightly higher in this need than non-fans. This would indicate that perhaps attending games and watching them on TV fulfills this need as it can be done as a family group. The need for financial security was negatively related to the sport consumer items in all cases, which indicates that those high in the need for financial security thought that fandom was potentially a drag on achieving that need, which supports Trail's (2019) findings as well.

Three single-item measures of values overlapped between both studies (Patriotism, Competitiveness and Hedonism). There were two SI values' measures in Study 1 that did not show up as meaningful in Study 2 (Self-Control and Conformity) and three that showed up in Study 2 but not in Study 1 (Environmentalism, Social Justice and Self-Direction). The three that overlapped certainly make sense to be related to sport consumer attitudes and behaviors and have been shown previously (Lee and Trail, 2011; Trail, 2019). Self-control and conformity items were meaningful in Study 1, but we are not sure of the value to the marketer. Understanding that people who are higher in self-control are higher in brand loyalty makes sense in that the individual controls their own behavior and does not switch brands, but these results are opposite of prior research (Lee and Trail, 2011; Trail, 2019). Our results also showed that those people having high conformity values are more likely to be sport fans and be brand-loyal, which makes sense, and supports prior research (Lee and Trail, 2011). However, marketing conformity might be difficult but understanding that those who like to conform are more likely to be sport fans and watch games on TV (Lee and Trail, 2011) could be used to promote a "Everyone else is doing it, so why aren't you?" type of message.

From Study 2, environmentalism values were primarily negatively related to team related attitudes and behaviors and reflect what Lee and Trail (2011) and Trail (2019) found as well. This is certainly problematic if marketers want to promote environmentalism aspects. Sport fans do not seem to be motivated by environmentalism values, so it might be even harder to get them to engage in sustainable behaviors. Social justice values were positively related to brand loyalty and lifestyle for a couple of teams, but this contradicted prior research (Lee and Trail, 2011; Trail, 2019) which found a negative relationship with general fandom and team identification (for the former). If our results are correct, then social justice could be marketed from a CSR framework, so including that value makes sense. We are not sure of the value of self-direction to the sport marketer since the relationship was negative in all cases (which supported prior work; Lee and Trail, 2011), except for having a positive correlation with team brand loyalty for the NBA team. The former results indicate that the more someone is motivated by acting on one's own beliefs and not others' (the opposite of conformity), the less likely they are to be team fans. From a marketing standpoint, a marketer could try to change this value to a "conformity" value, but that is unlikely to happen.

Sampling procedures and the samples analyzed presented some limitations for this study in terms of generalizability. Although we tried to include fans from a variety of different teams, sports (baseball, football and basketball) and level of competitions (major and minor

league), the majority of sample (73.9%) are collected from MiLB teams' databases. This might be due to the different recruiting procedures across teams (i.e. team's databases, social media sites, etc.), limiting the generalizability of the findings from these studies. In addition, we did not collect demographic data.

Implications

Theoretical implications. From a theoretical perspective, this study helps augment and extend the existing sport consumer behavior literature by expanding the number and types of SI measures supporting prior research on other constructs (Jordan and Turner, 2008; Ko et al., 2021; Kwon and Ko, 2006; Kwon and Trail, 2005). Specifically, our results show that SI measures of most needs and values are reliable and valid, in addition to being related to various sport consumer attitudes and behaviors. Prior research had not shown that SI measures of needs or values were feasible. In addition, our results provide supporting evidence for a part of Trail's (2019) Revised Model of Sport Consumer Behavior in that personal needs and values are related to sport consumer attitudes and intentions.

Practical implications. Thus, practitioners could use the three SI measures of Patriotism, Competitiveness and Hedonism values in a short survey with consumer attitudes and behavior items, with a fair degree of certainty that those SI measures will be valuable in helping the practitioner understand the motivation for being a fan, the impact on loyalty toward the team, and the consumption of the sport product. Furthermore, practitioners could include SI needs' measures of Curiosity, Stimulation, Achievement, Companionship, Social Acceptance, Family Togetherness and Financial Security to see if these items are motivators for their own fans spectators or have an impact on team loyalty or consumption. Therefore, we achieved our objective of creating a short, valid and reliable survey that a sport marketer could use to assess internal motivations of sport consumer attitudes and behaviors. This quick and easy 10-item survey (See Trail, 2022, Table 9), inclusive of these 3 values' and 7 needs' items, along with measures of sport attitudes and behaviors, could help the sport marketer develop marketing messages that may have a greater resonance with sport fans and spectators. Specifically, because the marketer would understand the impact of internal motivators (needs/values) on team related attitudes and behaviors, they could craft the message to be more specific and relevant to fans and spectators.

References

- Ang, L. and Eisend, M. (2018), "Measurement of attitudes: a meta-analysis of advertising studies validates the single-item measure approach", *Journal of Advertising Research*, Vol. 58 No. 2, pp. 218-227.
- Beatty, S. and Kahle, L. (1988), "Alternative hierarchies of the attitude-behavior relationship: the impact of brand commitment and habit", *Journal of the Academy of Marketing Science*, Vol. 16 No. 2, pp. 1-10.
- Bergkvist, L. and Rossiter, J.R. (2007), "The predictive validity of multiple-item versus single-item measures of the same constructs", *Journal of Marketing Research*, Vol. 44 No. 2, pp. 175-184.
- Braithwaite, V.A. and Law, H.G. (1985), "Structure of human values: testing the adequacy of the Rokeach value survey", *Journal of Personality and Social Psychology*, Vol. 49, pp. 250-263.
- Braunstein-Minkove, J.R. and Kim, A. (2022), "Turning insight into action: a case study assessing the use of consumer behavior data in minor league baseball communication strategies", Conference session, *North American Society for Sport Management Annual Conference*, Atlanta, GA, 2022.
- Chi, M.T.H., Glaser, R. and Farr, M.J. (1988), *The Nature of Expertise*, Lawrence Erlbaum Associates, Hillsdale.

-
- Churchill, G.A. Jr (1979), "A paradigm for developing better measures of marketing constructs", *Journal of Marketing Research*, Vol. 16 No. 1, pp. 64-73.
- Churchill, G.A. Jr and Peter, J.-P. (1984), "Research design effects on the reliability of rating scales: a meta-analysis", *Journal of Marketing Research*, Vol. 21 No. 4, pp. 360-375.
- Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed., Erlbaum, Hillsdale, NJ.
- DeVellis, R.F. (2003), *Scale Development: Theory and Applications*, Sage Publications, Thousand Oaks.
- Diamantopoulos, A. (2005), "The C-OAR-SE procedure for scale development in marketing: a comment", *International Journal of Research in Marketing*, Vol. 22 No. 1, pp. 1-9.
- Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P. and Kaiser, S. (2012), "Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective", *Journal of the Academy of Marketing Science*, Vol. 40 No. 3, pp. 434-449.
- Field, A. (2009), *Discovering Statistics Using SPSS*, 3rd ed., Sage, London.
- Harrolle, M.G., Trail, G.T., Rodríguez, A. and Jordan, J.S. (2010), "Conative loyalty of Latino and Non-Latino professional baseball fans", *Journal of Sport Management*, Vol. 24, pp. 456-471, doi: [10.1123/jsm.24.4.456](https://doi.org/10.1123/jsm.24.4.456).
- Hu, L.-T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", *Structural Equation Modeling*, Vol. 6, pp. 1-55.
- Jöreskog, K.G. (1971), "Statistical analysis of sets of congeneric tests", *Psychometrika*, Vol. 36 No. 2, pp. 109-133.
- Jordan, J. and Turner, B. (2008), "The feasibility of single-item measures for organizational justice", *Measurement in Physical Education and Exercise Science*, Vol. 12, pp. 237-257.
- Kahle, L.R., Beatty, S.E. and Homer, P. (1986), "Alternative measurement approaches to consumer values: the list of values (LOV) and values and life style (VALS)", *Journal of Consumer Research*, Vol. 13, pp. 405-409.
- Kahle, L.R., Duncan, M., Dalakas, V. and Aiken, D. (2001), "The social values of fans for men's versus women's university basketball", *Sport Marketing Quarterly*, Vol. 10 No. 3, pp. 156-162.
- Kamakura, W.A. (2015), "Measure twice and cut once: the carpenter's rule still applies", *Marketing Letters*, Vol. 26, pp. 237-243.
- Kim, Y.K. and Trail, G.T. (2010), "Constraints and motivators: a new model to explain consumer behavior", *Journal of Sport Management*, Vol. 24, pp. 190-210, doi: [10.1123/jsm.24.2.190](https://doi.org/10.1123/jsm.24.2.190).
- Ko, Y.J., Chang, Y., Jang, W., Sagas, M. and Spengler, J.O. (2017), "A hierarchical approach for predicting sport consumption behavior: a personality and needs perspective", *Journal of Sport Management*, Vol. 31, pp. 213-228.
- Ko, Y.J., Kwon, H.H., Kim, T., Park, C. and Song, K. (2021), "Assessment of event quality in major spectator sports: single-item measures", *Journal of Global Sport Management*. doi: [10.1080/24704067.2021.2001353](https://doi.org/10.1080/24704067.2021.2001353).
- Kunkel, T., Doyle, J.P., Funk, D.C., Du, J. and McDonald, H. (2016), "The development and change of brand associations and their influence on team loyalty over time", *Journal of Sport Management*, Vol. 30, pp. 117-134, doi: [10.1123/jsm.2015-0129](https://doi.org/10.1123/jsm.2015-0129).
- Kunkel, T., Funk, D.C. and Lock, D. (2017), "The effect of league brand on the relationship between the team brand and behavioral intentions: a formative approach examining brand associations and brand relationships", *Journal of Sport Management*, Vol. 31 No. 4, pp. 317-332.
- Kwon, H.H. and Ko, Y.J. (2006), "Validation of single item measure of scale of service quality for recreational sport (SSQRS)", *International Journal of Sport Management*, Vol. 7 No. 1, pp. 112-122.
- Kwon, H.H. and Trail, G.T. (2005), "The feasibility of single-item measures in sport loyalty research", *Sport Management Review*, Vol. 8, pp. 69-89.
- Lee, D. and Trail, G.T. (2011), "The influence of personal values and goals on cognitive and behavioral involvement in sport", *Journal of Sport Management*, Vol. 25, pp. 593-605.

- Lester, D., Hvezda, J., Sullivan, S. and Plourde, R. (1983), "Maslow's hierarchy of needs and psychological health", *Journal of General Psychology*, Vol. 109, pp. 83-85.
- Lindeman, M. and Verkasalo, M. (2005), "Measuring values with the short Schwartz's value survey", *Journal of Personality Assessment*, Vol. 85 No. 2, pp. 170-178.
- Malhotra, N. (1999), *Marketing Research: An Applied Orientation*, 3rd ed., Prentice-Hall, Upper Saddle River, NJ.
- Maslow, A.H. (1954), *Motivation and Personality*, Harper & Row, Publishers, New York.
- Nunnally, J.C. and Bernstein, I. (1994), *Psychometric Theory*, 3rd ed., McGraw-Hill, New York.
- Rigdon, E.E., Preacher, K.J., Lee, N., Howell, R.D., Franke, G.R. and Borsboom, D. (2011), "Avoiding measurement dogma: a response to Rossiter", *European Journal of Marketing*, Vol. 45 Nos 11/12, pp. 1589-1600.
- Rokeach, M. (1973), *The Nature of Human Values*, Free Press, New York, NY.
- Rossiter, J.R. (2002), "The C-OAR-SE procedure for scale development in marketing", *International Journal of Research in Marketing*, Vol. 19 No. 4, pp. 305-335.
- Schwartz, S.H. (1994), "Are there universal aspects in the structure and contents of human values?", *Journal of Social Issues*, Vol. 50, pp. 19-45.
- Schwartz, S.H. and Bilsky, W. (1987), "Toward a universal psychological structure of human values", *Journal of Personality and Social Psychology*, Vol. 53 No. 3, pp. 550-562.
- Stanton, J.M., Sinar, E.F., Balzer, W.K. and Smith, P.C. (2002), "Issues and strategies for reducing the length of self-report scales", *Personnel Psychology*, Vol. 55 No. 1, pp. 167-193.
- Stebbins, R.A. (2001), *Exploratory Research in the Social Sciences. Sage University Papers Series on Qualitative Research Methods*, Vol. 48, Sage Publications, Thousand Oaks.
- Taormina, R.J. and Gao, J.H. (2013), "Maslow and the motivation hierarchy: measuring satisfaction of the needs", *The American Journal of Psychology*, Vol. 126, pp. 155-177, doi: [10.5406/amerjpsyc.126.2.0155](https://doi.org/10.5406/amerjpsyc.126.2.0155).
- Taylor, E. (2021), "3 benefits of short market research surveys", *Drive Research*, available at: <https://www.driveresearch.com/market-research-company-blog/benefits-of-shorter-surveys/>.
- Trail, G.T. (2019), *Sport Consumer Behavior*, 4th ed., Sport Consumer Research Consultants LLC, Seattle, WA.
- Trail, G.T. (2022), "Single-item needs' and values' measures for sport marketers: supplemental materials", *Sport Consumer Research Consultants LLC*, Seattle, WA, available at: https://www.researchgate.net/publication/362149280_Single-item_needs'_and_values'_measures_for_sport_marketers_-_Supplemental_materials.
- Trail, G.T. and James, J.D. (2001), "The motivation scale for sport consumption: assessment of the scale's psychometric properties", *Journal of Sport Behavior*, Vol. 24 No. 1, pp. 108-127.
- Trail, G.T., Fink, J.S. and Anderson, D.F. (2003), "Sport spectator consumption behavior", *Sport Marketing Quarterly*, Vol. 12 No. 1, pp. 8-17.
- Wann, D.L. (1995), "Preliminary validation of the sport fan motivation scale", *Journal of Sport and Social Issues*, Vol. 19, pp. 377-396, doi: [10.1177/019372395019004004](https://doi.org/10.1177/019372395019004004).
- Winston, C.N., Maher, H. and Easvaradoss, V. (2017), "Needs and values: an exploration", *The Humanistic Psychologist*, Vol. 45 No. 3, pp. 295-311, doi: [10.1037/hum0000054](https://doi.org/10.1037/hum0000054).

Corresponding author

Galen Trail can be contacted at: trailg@seattleu.edu

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com