

# Development of the Cultural Appreciation of Martial Arts Scale

John R. Malmø<sup>1</sup>, Merry Moiseichik<sup>2</sup>

<sup>1</sup> Department of Sport Management, Rogers State University, Claremore, Oklahoma, USA

<sup>2</sup> Department of Health, Human Performance and Recreation, University of Arkansas, Fayetteville, Arkansas, USA

**Keywords:** martial culture, cultural appreciation, scale development, taekwondo

## Summary

The purpose of this study was to develop a valid and reliable social sciences instrument to measure the cultural appreciation of martial arts practitioners. To that end, the Cultural Appreciation of Martial Arts Scale (CAMAS) was developed. The study resulted in a 20-item, 3-factor scale that measures Cultural Knowledge, Cultural Sensitivity, and Cultural Awareness in the martial arts. The CAMAS has already garnered interest from instructors, whose schools were selected for this study, for use in evaluating program efficacy in providing cultural teachings and as a possible method to expose marketing opportunities for program offerings.

## Introduction

On December 11, 2009, President Gloria Macapagal-Arroyo approved Republic Act Number 9850 which defined the indigenous Filipino martial art *Arnis* and declared it as the Philippine National Martial Art and Sport [1]. This national recognition represents a huge shift in the movement to educate, promote, and propagate the Filipino martial arts not only to Filipinos but the world at large. The combative arts indigenous to the Philippines have always been an essential part of the Filipino society; initially as a necessity to protect against invaders, and today as a matter of cultural heritage and leisure activity. Unlike some other martial arts styles, the importance of culture and the historical development of the Filipino martial arts (FMA) are strongly stressed to participants. One indicator of this fact is the enormous focus on traditional weapons training methodology based on historical events. The vast majority of FMA systems begin with weapons training immediately.

Taekwondo is the national martial art of Korea. Unlike Filipino martial arts, Taekwondo stresses empty hand tactics over weapons training and is far more well-known to the general public. Over 70 million people around the world participate in Taekwondo [2]. As with other martial arts, its development was one of necessity for protection from invaders and assailants. Today it is also an Olympic sport recognized across the globe and is practiced for reasons including fitness and health, sport, and self-defense. Taekwondo and its practitioners have been subjects of several studies investigating the physical and social benefits [3]; self-control and self-regulation [4]; and responsibility, self-expression, and confidence [5]. Scholars have also examined the potential physical harms [6-8].

Previous research has explored various cultural constructs. However, no research was found that clearly defined cultural appreciation. Utilizing existing research investigating aspects of

culture including cultural awareness and cultural competence, the study examined cultural appreciation as a variable in a leisure activity. Practitioners of the Filipino martial arts are often highly immersed in the cultural aspects associated with the Philippines and the indigenous combative arts. Likewise, Taekwondo students are often taught to identify Korean words and phrases and how to count in Korean. They are also exposed to cultural practices and beliefs during their training. Previous research was not found that explored cultural appreciation as it relates to a leisure endeavor. This study sought to develop a reliable and valid survey instrument measuring the construct of Cultural Appreciation of Martial Arts.

## Cultural Appreciation

Previous research has explored various cultural constructs. However, no research was found that clearly defined cultural appreciation. Utilizing existing research investigating aspects of culture including cultural awareness and cultural competence, the study examined cultural appreciation as a variable in a leisure activity. Practitioners of the Filipino martial arts are often highly immersed in the cultural aspects associated with the Philippines and the indigenous combative arts. Likewise, Taekwondo students are often taught to identify Korean words and phrases and how to count in Korean. They are also exposed to cultural practices and beliefs during their training. Previous research was not found that explored cultural appreciation as it relates to a leisure endeavor. This study sought to develop a reliable and valid survey instrument measuring the construct of Cultural Appreciation of Martial Arts.

Culture, as it is approached in this study, is concerned with an anthropological or sociological definition of culture. According to cultural anthropologist founder, Sir Edward Tylor [9, p. 1], culture is, "that complex whole which includes knowl-

edge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society". Cultural appreciation does not as of yet have a clearly articulated definition that is accepted globally. For purposes of this study, it is defined as the perceived attitude towards, and awareness, cultivation, implementation or integration of, the understanding of customary beliefs, social forms, shared attitudes, values, goals, practices, and material traits of a racial, religious, or social group. A fairly vast knowledge base exists on various aspects of culture. This includes studies investigating cultural awareness, cross-cultural understanding, and cultural competence.

Tian and Tian [10] found that age was not a high indicator for cultural awareness. Instead, a better indicator was the amount of education an individual had. The higher the education, the more aware and knowledgeable a person was likely to be. Ethnicity was also found to play a significant part in cultural awareness. Individuals from a particular culture were identified as not only being more aware, but also more likely to engage in an activity for the cultural experience.

O'Donohue and Benuto [11] noted that anthropologists spend years to lifetimes studying a particular culture and then tend to profess only a moderate understanding of the culture. In their study, they focused on cultural sensitivity; in particular the lack of a clearly articulated operational definition and description of either culture or sensitivity. Wright & Cumming [12] proposed seven dimensions of cultural sensitivity as it relates to psychology:

1. accurately identifying the culture to which the person belongs;
2. accurately knowing actual regularities associated with the culture or cultures;
3. knowing when these regularities are potentially relevant to the task with which the psychologist is concerned;
4. ethical judgments that acting on or respecting this cultural regularity is not ethically impermissible (e.g., are not sexist or racist);
5. knowing how to effectively implement any action in a culturally sensitive manner;
6. if cultural sensitivity is regarded as a global construct, all issues are nested by all relevant cultures and all possible permutations; and
7. awareness of how the psychologist's own cultural values and assumptions affect and interact with the cultural issues at hand.

In nursing, the concept of cultural awareness and competence is vitally important. Understanding of varying cultural structures and interpretations is necessary to prevent undue costs, burdens, and compromising the quality of healthcare [13, 14]. Rew, Becker, Cookston, Khosropour & Martinez [15] developed a cultural awareness scale based on research of cultural awareness, cultural sensitivity, cultural competence, nursing clinical practice, and nursing education. They noted that formal evaluations of programs designed to provide cultural education were lacking, and that this may be due to ambiguity of terms such as cultural sensitivity, multicultural awareness, and cultural competence.

According to Sodowsky, Taffe, Gutkin, and Wise [16], culturally competent individuals are aware of differences in people based on knowledge of their cultures. They also respect individuals from different cultures and value diversity. Rew et al., [15] classified cultural competence into four components:

- Cultural awareness (representing the affective dimension)
- Cultural sensitivity (representing the attitudinal dimension)
- Cultural knowledge (representing the cognitive dimension)
- Cultural skills (representing the behavioral dimension)

Schnell [17] addressed the issue of cross-cultural sensitivity in the classroom. He noted that the way a class is taught can be almost as important as what is taught in terms of addressing and preventing cultural misunderstandings. In order to improve relations between cultures, one needs to be aware of the affective, cognitive, and interpersonal domains of cross-cultural interaction. Schnell [17, p. 44] stated, "The affective domain involves acceptance and respect of other cultural backgrounds. The cognitive domain emphasizes knowledge and understanding of other cultural backgrounds. The interpersonal domain stresses the development of communication skills for interacting with various cultural backgrounds".

A number of measurement instruments are used to gauge cultural awareness, sensitivity, and competence. These include the Bennett scale [18] also known as the Developmental Model of Intercultural Sensitivity, the Cultural Competence Self-Assessment Questionnaire [19], the Diversity Mission Evaluation Questionnaire [20], and Measuring Cultural Awareness in Nursing Students [21].

Taken from the ideas above it could be argued that is important to better understand cultural issues and that cultural understanding can provide value and benefit in a variety of fields. Research was not found that addressed cultural appreciation as it relates to the pursuit of an endeavor while providing a way to measure an individual's awareness, attitude, and perceived or actual knowledge as it relates to the activity. The author of the current study utilized the current literature and existing cultural measurement scales to establish an instrument to accurately measure these items for participants of the martial arts; specifically Taekwondo and the Filipino martial arts.

## Culture and the Martial Arts

No research was found that examined cultural appreciation of the martial arts. Kim, Zhang, & Ko [22] did identify Cultural Learning as one factor associated with market demand and training in Taekwondo. Schmidt [23], reported that Taekwondo practitioners are acculturated to traditional Korean cultural ideas, behaviors and norms. The findings by Kim et al. [22] supported the concept that Taekwondo training is a cultural learning process. However, the findings also revealed that "Cultural Learning may be a secondary consideration or viewed as a consequence of attending...instead of an active reason" [22, p. 162].

Research also examined the martial arts and its relationship to other cultural aspects. Lewis [24] identified Hip Hop Stick Dance, or Hip Hop Tinikling, as an evolving combination

of traditional Filipino folk dance and Filipino martial arts with modern pop-culture music. This activity incorporates and meets national dance standards [25] and physical education standards [26]; including standards of comparing and understanding cultural and historical aspects. These standards support the view that understanding physical activities are a product of complex cultural processes is important.

The adaptation, incorporation, acculturation, or acceptance of the martial arts culture has also been examined in a range of studies including the exploring of local interactional situations [27]; the internal conflict between religious beliefs and leisure practices [28]; and spectator motives and media consumption behavior [29]. Kim & Chalip [30] investigated the relationship between Taekwondo and Korea as a destination marketing opportunity. They noted that some activities are strongly associated with particular countries, and that Taekwondo is identified highly with the Republic of Korea. Ko [31] stated that Koreans have more experience watching or participating in the martial arts than those in the western world since the martial arts have traditionally been seen as an important tool for cultivating the mind and character.

Numerous authors have devoted time to explore the culture of the martial arts. There are a number of books and publications dedicated to the Filipino martial arts [32-36] and to Taekwondo [37-39] that address cultural and historical aspects of these styles. The various works dedicated to these arts speak to the importance of history and culture as it relates to the martial arts.

It could be argued that understanding the cultural context is fundamentally important to truly comprehending the nature of the martial arts. Sweet [40] posited that teaching Taekwondo without including the philosophy of the art was not possible. The traditional Korean philosophies of Han, the idea that mind and body are not separable and that man is not separable from heaven and earth, and Hongik-ingan, the cooperation between men and the harmony between man and nature, have helped to shape the culture of Korea and Taekwondo [41]. It is believed that cultural appreciation is important to learning and understanding a particular martial art. A way to measure the concept of cultural appreciation is therefore necessary to the further study it has to other concepts like serious leisure or leisure activity enjoyment.

## Material and Methods

### Scale Development

Developing a summated rating scale requires several steps in the process. Five major steps utilized for development of this instrument were: defining the construct, designing the scale, conducting a test-retest, performing item analysis, and verifying reliability and validity. An expert panel of martial arts instructors was used to evaluate, review, and provide feedback for the instrument.

### Defining the Construct

Measures currently exist that address cultural aspects such as cultural awareness [42] and cultural competence [43-44]. However, adequately detailed statements with an empirical and theoretical base were not found for the construct of Cultural Appreciation of Martial Arts for use in assessments. While related to other constructs, the cultural appreciation of martial arts is concerned specifically with cultural appreciation of a particular leisure activity specifically, the martial arts. The construct of Cultural Appreciation of Martial Arts was defined utilizing the current literature on cultural aspects and any corresponding measurement instruments for aspects such as cultural competence, cultural awareness, cross-cultural understanding, cultural sensitivity, and cultural learning.

The operational definition that was used in this study to develop the CAMAS was: the perceived attitude towards, and awareness, cultivation, implementation or integration of, the understanding of customary beliefs, social forms, shared attitudes, values, goals, practices, and material traits of a racial, religious, or social group. The bounds were therefore established to be within the four components as identified, assessed, and defined by the author of the current study as supported by the literature [15, 45-47]. These components are cognitive, behavioral, affect, and attitudinal in nature.

### Expert Panel

A panel was assembled of eight martial arts instructors with backgrounds in either Taekwondo or the Filipino martial arts. Each instructor chosen for the expert panel had at least 30 years of experience in the martial arts and is a recognized high ranking representative of their respective style. They were

Tab. 1. Cultural Appreciation Components, Dimensions, and Definitions

Cultural Awareness	Affective	Being conscious that there are a variety of cultures, that differences exist between them, that culture plays an important role for the corresponding social group, and that one's own cultural background and experiences can influence beliefs, attitudes, and behaviors.
Cultural Knowledge	Cognitive	The actual understanding of customary beliefs, social forms, shared attitudes, values, goals, practices, and material traits of a racial, ethnic, religious, or social group. This understanding can be expressed through assimilation, acculturation, or appropriation.
Cultural Sensitivity	Attitudinal	The respect, value, and attitude one demonstrates towards a particular culture, its beliefs and practices.
Cultural Skills	Behavioral	The process of acquiring, implementing, or integrating cultural practices or knowledge.

selected based on their interest, knowledge, commitment, and expertise in their field. The expert panel members were contacted by email, phone, and social media messaging. Panel members were asked to perform several tasks: identify potential components of cultural appreciation of martial arts, review and critique the definitions used per identified component, provide feedback regarding item wording, recommend new items for inclusion as necessary, perform a Q-sort of the completed item pool by matching items with the corresponding definition, and note any issues with the CAMAS.

Expert panel members were provided with the definitions for the identified components and items and given three weeks to complete their critique. No definitions were altered as a result of the expert review process. See Table 1 for the components and definitions.

### Item Pool eneration

This study sought to create a valid and reliable instrument. To that end, homogenous indicators were necessary. Homogenous indicators are items that strictly reflect the construct operationalization and therefore are highly concentrated on the centroid or true meaning of a specific construct [48]. The Cultural Appreciation of Martial Arts Scale (CAMAS) was designed to examine the components identified by the expert panel assembled for this study and supported by the literature; specifically participants' cultural awareness, cultural sensitivity, cultural knowledge, and cultural skills. Initial item statements were drafted with the use of two techniques: original item development and the use of existing scales. The author of the present study developed eight to ten original item statements per each of the four components identified by the literature review and input from the expert panel. The author then gathered items from existing measures and revised them for fit. The expert panel review process resulted in the generation of 18 new items and the rewording of three items for readability.

The CAMAS questionnaire uses a seven-point Likert-type scale anchored to "Strongly Agree" and "Strongly Disagree." Likert introduced this method for a summated rating scale to deal with a pool of items that are believed to be relevant to the attitude object of interest [49]. Sample item questions included in this pool include, "I take time to learn about the culture of my martial arts", "My own attitudes, beliefs, and values are influenced by the culture of my martial arts", and "I am knowledgeable about the history, traditions, and values of my martial arts and its home country". Respondents likely to be in agreement are those with high cultural appreciation orientation. Respondents likely to be in disagreement are those with low cultural appreciation orientation.

### Q-Sort

After completion of the item pool, the expert panel conducted a Q-sort as a contribution to establishing Cultural Appreciation of Martial Arts construct validity. According to Stephenson [50], a Q-sort involves having individuals with knowledge of the construct (Cultural Appreciation of Martial Arts) sort the items on each component of cultural appreciation with the

definition from which they were derived. Panel members were given the definition of each component for Cultural Appreciation of Martial Arts along with a document containing the pool of items. The panel then matched each item with the corresponding component. This process helped identify heterogeneous items, items that may overlap on more than one component, from homogenous types of items. As mentioned, one goal in the development of this measure was to develop homogenous item sets.

Once the Q-sort was finished, the author tabulated the frequency each item was categorized to reflect a specific component. Items that were associated with more than one component were eliminated or reevaluated by the expert panel to determine why it seemed to be heterogeneous. Those items with high (75%-100%) consensus (matched to the specified definition) were retained. Of the 52 items in the item pool, 40 were retained. A total of 10 items per component were included in the CAMAS questionnaire.

### Test Retest Reliability

Reliability of the CAMAS was tested using a test-retest method. Testing reliability with this methodology is valid for the CAMAS because the items are subjective. Respondents answer according to their own personal experience. A convenience sample of 10 adult martial arts students were selected from a martial arts school in Bentonville, Arkansas for the test-retest. These students were asked to complete the CAMAS section of the survey instrument, and their scores were recorded via Survey Methods. After a period of seven days, the students were asked to complete the CAMAS a second time. This time frame was chosen to allow enough time for respondents to forget how they responded to the items the first time, while not providing enough time for significant changes in the respondents' opinions, attitudes, and knowledge. Running reliability analysis for the test-retest resulted in Cronbach's alpha of .999. Cronbach's alpha indicates nearly perfect reliability.

### Participants

Participants utilized for conducting item analysis were current adult Taekwondo and Filipino martial arts students. These participants were targeted due to this specific pursuit which provides greater homogeneity in terms of activity types. These participants were drawn from 22 martial arts schools located in Arkansas and the surrounding states. An internet search revealed 153 martial arts schools specializing in Taekwondo as having locations in Arkansas. In total, 10 Taekwondo academies located in different cities in Arkansas were selected to participate in this study. These academies were chosen via systematic random sampling from the list of Taekwondo schools located in Arkansas. Every 15th school was selected. Five Taekwondo schools declined to participate and two schools were no longer in existence so new schools were chosen via random sampling. Sixty-eight questionnaires were initiated by Taekwondo students. A total of 60 questionnaires were completed by Taekwondo students ( $n = 60$ ).

An internet search revealed 49 martial arts schools specializing in Filipino martial arts located in Arkansas and its bordering states. Twelve Filipino martial arts schools located in Arkansas and its border states of Oklahoma, Texas, and Missouri were selected to participate. It was necessary to use Filipino martial arts located in other states, to garner more participants for this study as there are far fewer FMA schools and practitioners in Arkansas by comparison to Taekwondo schools. These academies were chosen via systematic random sampling from the list of Filipino martial arts schools. Every fourth school was selected. A total of 54 questionnaires were completed by Filipino martial arts students ( $n = 54$ ). Of the 129 total questionnaires initiated, 114 were complete and used for this study ( $n = 114$ ).

### Data Collection

After all modifications and additional advisement, the survey was prepared for administration. Instructors at each of the martial arts schools selected for this study were contacted via phone or email and asked for their participation in this study. Upon their agreement, an email cover letter was sent with the informed consent information that contained the purpose of the study, assurance of anonymity, and the importance of their responses. Additionally, the email contained directions for the instrument, and a link to the questionnaire. Instructors were asked to print a copy of the email and post it for students, and to forward the email directly to their adult students as well as to make announcements in class encouraging their students' participation.

Responses from each individual were automatically recorded online via Survey Methods. After one week a reminder email was sent to the instructors of the martial arts schools. This email served as a reminder for those who had not responded and as a "thank you" for those that had. After two weeks of accepting responses, all the raw data were downloaded. All data were then input into an Excel spreadsheet suitable to import into SPSS.

### Data Analysis

A common approach to instrument development in the social sciences is factor analysis. "Factor analysis is a mathematical technique which permits the reduction of a large number of interrelated variables to a smaller number of latent dimensions or factors" [51, p. 120]. The aim of the current study is to represent the structure of correlations among measured variables with a common factor model.

Exploratory Factor Analysis (EFA) was utilized for this study because it can provide both structure for, and distinctions among, the correlated variables. Principal Components Analysis (PCA) with Varimax with Kaiser Normalization rotation was performed to reduce the dimensionality of the multivariate data set to the least number of meaningful variables with the goal of reducing the original variables to the least number of factors. The PCA determined the number of eigenvalues greater than one. Cronbach's alpha (alpha coefficient) was used to establish the internal reliability of the scales. Da-

ta analysis was performed using the Statistical Package for the Social Sciences (SPSS). SPSS 21.0.0.0 was used for reliability to screen the data and provide descriptive statistics.

## Results

Factor analysis was utilized to represent the structure of correlations between measured variables within a common factor model. Exploratory Factor Analysis (EFA) relies on the common factor model. EFA was chosen because the researcher had "relatively little theoretical or empirical basis to make strong assumptions about how many common factors exist" [52, p. 277].

The EFA extracted six factors (components) from the 40 items. Items with cross loading differences of .20 or less were eliminated since these items are indicative of a strong relationship with more than one factor. A total of 17 items were eliminated. After this initial item elimination, a total of 23 items were distributed among five factors. Two factors were represented by one item each. A minimum of three items per factor has been identified as being preferential for scale development and factor analysis [53-55]. So that all factors were represented by at least three items, EFA was conducted again on the 23 items remaining from the initial factor analysis.

The second EFA extracted three factors. Cross loading was evaluated and items with cross loading differences of .20 or less were eliminated. Three items were eliminated leaving 20 items across the three factors. All factors were represented by at least three items. The 20-item, 3-factor scale produced the following factor labels: Cultural Knowledge, Cultural Sensitivity, and Cultural Awareness. Cronbach's alpha for the factors were .962, .918, and .873 respectively. An alpha of .65 to .70 is often considered "adequate" in human dimensions research [49]. The lowest alpha was .873 which indicates a good to excellent scale with high internal consistency. See Table 2 for factor analysis and factor loadings.

The first factor, Cultural Knowledge, explained 56.28% of the variance and yielded 11 items with an average item mean of 5.10 and a standard deviation of 14.23. Skewness and kurtosis were  $-.57$  and  $-.49$  respectively. The range was 57 with a minimum and maximum of 20-77. Communalities for this factor ranged from .563-.872. The reliability for this factor was  $\alpha = .962$ .

The second factor, Cultural Sensitivity, explained 10% of the variance and yielded six items with an average item mean of 4.86 and a standard deviation of 7.58. Skewness was  $-.70$  and kurtosis was .11. The range was 35 with a minimum of 7 and a maximum of 42. Communalities for this factor ranged from .627-.849. The reliability for this factor was  $\alpha = .918$ .

The third factor, Cultural Awareness, explained 6.56% of the variance and yielded 3 items. The average item mean was 5.79 and the standard deviation was 2.80. Skewness and kurtosis were  $-.73$  and .39 respectively. The range was 12 with a minimum and maximum of 9-21. Communalities for this factor ranged from .671-.839. The reliability for this factor was  $\alpha = .873$ .

Tab. 2. Factor Analysis

Item	$\alpha$	Variance %	Factor Loading
<b>Cultural Knowledge</b>			
I can discuss specific details related to the history, traditions, and values of my martial arts and its home country.	.962	56.282	.883
I can identify and discuss the culture of my martial arts.			.858
I know how to act with courtesy and respect in my martial arts.			.856
I can identify unique symbols specific to my martial arts.			.804
My attitudes, beliefs, and values are influenced by the culture of my martial arts.			.781
I can identify and discuss key historical events that have shaped my martial arts.			.780
I am aware of the culture of my martial arts.			.770
I can identify and discuss key people that have shaped my martial arts.			.747
I share what I know about the history and culture of my martial arts and its home country with my friends.			.720
My involvement in my martial arts has broadened my understanding of multicultural issues.			.670
My involvement in my martial arts has exposed me to new foods from its home country.			.609
<b>Cultural Sensitivity</b>			
I enjoy participating in cultural activities related to my martial arts.	.918	9.997	.885
Interacting with others that are also involved in the cultural aspects of my martial arts is valuable to me.			.827
I enjoy learning about art, music, and dance from my martial arts' home country.			.775
Learning about culture enriches the experience of training in my martial arts.			.774
Learning about culture is a significant reason I train in my martial arts.			.747
I participate in cultural activities associated with my martial arts and its home country.			.741
<b>Cultural Awareness</b>			
I believe that my martial arts plays an important role in the culture of its home country.	.873	6.558	.856
I believe the impact my martial arts has on the culture of its home country is significant.			.850
I am accepting of the values and behaviors of my martial arts culture.			.687

## Discussion

The objective for this study was to develop a valid and reliable social sciences instrument that measures Cultural Appreciation of Martial Arts. Items were developed with an expert panel and q-sort, and a summated rating scale was chosen for the instrument. The items were administered for a test-retest reliability test that resulted in Cronbach's alpha of .999. The developed questionnaire was then provided to adult martial arts students at 22 randomly selected schools representing Taekwondo and the Filipino martial arts. Exploratory factor analysis revealed three factors; Cultural Knowledge, Cultural Sensitivity, and Cultural Awareness.

The expert panel contributed to the establishment of face validity as the items appeared to capture the essence of the appropriate construct [56]. The panel also provided feedback pertaining to content validity, which is the concept that the important content domain is covered by the indicators. Construct validity, "the extent to which a particular measure relates to other measures consistent with theoretically derived hypothesis concerning the concepts (or constructs) that are being measured" [57, p. 23], was established for the CAMAS through the use of Exploratory Factor Analysis (EFA). EFA can be useful for evaluating construct validity [58]. A number of scholars have utilized EFA to evaluate and establish construct validity [59-61]. The findings reported here indicate validity and reliability and support the use of the CAMAS to measure Cultural Appreciation of Martial Arts.

Gould, Moore, McGuire, & Stebbins [62] and Rew et al. [15] used much of the same methodologies utilized in this study to develop the Serious Leisure Inventory and Measure and Cultural Awareness Scale respectively; use of an expert panel, item sorting, and factor analysis. Rew et al. [15] generated an item pool from a literature review on cultural awareness, cultural sensitivity, and cultural competence in nursing to create a 7-point Likert scale consisting of 37 items. Unlike this study, Rew et al. [15] worded some items negatively.

The Cultural Appreciation of Martial Arts Scale (CAMAS) was designed to provide a quantitative measure at the individual level. In comparison, assessment tools for Cultural Competence have been designed for several levels including the agency, provider, and consumer or client level. Similarly, assessment tools for Cultural Awareness have been designed for various levels. For example, Robinson [42], sought to develop a cultural awareness scale that could achieve three goals: assess teacher sensitivity to cultural differences in children from the culture of poverty, help teachers recognize and interpret behaviors that indicate cultural differences, and help supervisors identify the needs of teachers that worked with children from the culture of poverty. The CAMAS was also developed to help achieve certain goals through the measurement of Cultural Appreciation of Martial Arts. These goals include: evaluating program effectiveness, assessing teaching methodologies, and identifying potential marketing opportunities.

Other studies have also identified factors that they termed Cultural Knowledge. The definitions for Cultural Knowledge in those studies vary widely. They also differ from the definition used in this study, although some similarities may be present. Schnell [17] identified the cognitive dimension as emphasizing knowledge and understanding. This is in line with the definition used in this study. Williams [44] identifies Cultural Knowledge as having characteristics that include cognitive, affective, attitudinal, and behavioral dimensional traits. Cultural Knowledge as defined in this study does not include attitudinal dimensional traits. The attitudinal dimension is represented by Cultural Sensitivity as it relates to the Cultural Appreciation of Martial Arts construct.

As it relates to Cultural Knowledge, this study did not examine if martial arts practitioners could actually identify and discuss their understanding of cultural matters. The CAMAS investigated self-reported indications of how an individual perceived their understanding. Testing could be conducted that quantifies a martial arts practitioner's actual level of knowledge as it relates to their understanding of cultural issues involving their martial arts. Studies utilizing the CAMAS could include a larger number of Taekwondo and Filipino martial arts schools given the relatively small representation of this

study. This study did not attempt to differentiate between Taekwondo and Filipino martial arts practitioners. Future studies could look at the differences to explore if Cultural Appreciation of Martial Arts has higher reporting in one particular population. Additional studies should be conducted with other populations including other well-known martial arts styles from countries such as Japan and China. Additionally, the construct of Cultural Appreciation could be studied for its potential relationships to other leisure constructs. Study and instrumentation for other activities or endeavors that are associated with a particular culture would be an avenue for further study.

In summary, the purpose of this study was to develop a valid and reliable social sciences instrument to measure the cultural appreciation of martial arts practitioners. To that end, the Cultural Appreciation of Martial Arts Scale (CAMAS) was developed. The study resulted in a 20-item, 3-factor scale that measures Cultural Knowledge, Cultural Sensitivity, and Cultural Awareness in the martial arts. The CAMAS has already garnered interest from instructors, whose schools were selected for this study, for use in evaluating program efficacy in providing cultural teachings and as a possible method to expose marketing opportunities for program offerings.

## References

1. Lawphil. The Lawphil Project: Arellano Law Foundation. [Online].; 2009. Available from: [http://www.lawphil.net/statutes/repacts/ra2009/ra\\_9850\\_2009.html](http://www.lawphil.net/statutes/repacts/ra2009/ra_9850_2009.html).
2. Kim JY. Taekwondo textbook Seoul: O-Sung Publishing Company; 2006.
3. Kim Y. Change of youth physical self-concept according to Taekwondo participation. *The Korean Journal of Growth and development*. 2009; 17(1): p. 33-40.
4. Choi J, Ko G, Lim T. The change of self-regulation according to Taekwondo discipline. *The Journal of Korean Alliance of Martial Arts*. 2009; 11(3): p. 181-196.
5. Park E. A study of leadership inclination difference on elementary school students in relation to Taekwondo training. *The Journal of Korean Alliance of Martial Arts*. 2009; 11(2): p. 221-232.
6. Engebretsen L, Soligard T, Steffen K, Alonso J, Aubry M, Budgett R, et al. Sports injuries and illnesses during the London Summer Olympic Games. *British Journal of Sports Medicine*. 2013; 47(7): p. 407-414.
7. Alizadeh MH, Shirzad E, Sedaghati P. Epidemiology of head, neck and torso injuries in taekwondo, karate and judo. *Feyz Journal of Kashan University of Medical Sciences*. 2012; 16(4): p. 368-385.
8. Kazemi M, Chudolinski A, Turgeon M, Simon A, Ho E, Coombe L. Nine year longitudinal retrospective study of Taekwondo injuries. *Journal of the Canadian Chiropractic Association*. 2009; 53(4): p. 272-281.
9. Tylor EB. *Primitive Culture: researches into the development of mythology, philosophy, religion, art, and custom* London: John Murray; 1871.
10. Tian K, Tian RG. Food consumption and cultural awareness: an anthropological case study of consumer behavior at a Chinese restaurant. *Journal of Marketing Development & Competitiveness*. 2011; 5(4): p. 51-69.
11. O'Donohue W, Benuto L. The many problems of cultural sensitivity. *The Scientific Review of Mental Health Practice*. 2010; 7(2): p. 34-37.
12. Wright RH, Cumming NA, editors. *Destructive trends in mental health: the well intentioned path to harm* New York: Routledge Taylor & Francis Group; 2005.
13. Anderson E. *Streetwise: race, class, and change in an urban community* Chicago: University of Chicago Press; 1990.
14. Dixon-Mueller R. *Population policy and women's rights: transforming reproductive changes* New York: Praeger; 1993.
15. Rew L, Becker H, Cookston J, Khosropour S, Martinez S. Measuring cultural awareness in nursing students. *The Journal of Nursing Education*. 2003; 42(6): p. 249-257.
16. Sadowsky GR, Taffe RC, Gutkin TB, Wise SL. Development of the multicultural counseling inventory: a self-report measure of multicultural competencies. *Journal of Counseling Psychology*. 1994; 41: p. 137-148.
17. Schnell J. Self-assessment of cultural awareness in the classroom. *Journal of the Communication, Speech & Theatre Association of North Dakota*. 2011; 24: p. 41-45.
18. Bennett MJ. A developmental approach to training for intercultural sensitivity. *International Journal of Intercultural Relations*. 1986; 10(2): p. 179-196.
19. Mason JL. *Cultural Competence Self-Assessment Questionnaire: A manual for users*. 1995..
20. Ducker DG, Tori CD. The reliability & validity of a Multicultural Assessment Instrument developed for a graduate program in psychology. *Professional Psychology: Research and Practice*. 2001; 32(4): p. 425-432.

21. Krainovich-Miller B, Yost J, Norman R, Auerhahan C, Dobal M, Rosedale M, et al. Measuring cultural awareness of nursing students: a first step toward cultural competency. *Journal of Transcultural Nursing*. 2008; 19: p. 250-258.
22. Kim MK, Zhang JJ, Ko YJ. Dimensions of market demand associated with Taekwondo schools in North America: development of a scale. *Sport Management Review*. 2009; 12(3): p. 149-166.
23. Schmidt RJ. Japanese martial arts as spiritual education. In Kleinman S. *Mind and body: East meets west*. Champaign: Human Kinetics; 1986. p. 69-74.
24. Lewis L. The Philippine "Hip Hop Stick Dance". *Journal of Physical Education, Recreation & Dance*. 2012; 83(1): p. 17-21, 32.
25. National Dance Association. *Implementing the National Dance Association Standards* Meyer FA, editor. Champaign: Human Kinetics; 2010.
26. National Association for Sport and Physical Education. *Moving into the future: national standards for physical education*. 2nd ed. Oxon Hill: McGraw-Hill Higher Education; 2004.
27. Hedegard D. Becoming a Capoeirista: a situational approach to interpreting a foreign cultural good. *Sociological Inquiry*. 2012; 82(4): p. 510-531.
28. Borer M, Schafer TS. Culture war confessionals: conflicting accounts of Christianity, violence, and mixed martial arts. *Journal of Media and Religion*. 2011; 10(4): p. 165-184.
29. Seungmo K, Andrew DS, Greenwell T. An analysis of spectator motives and media consumption behaviour in an individual combat sport: cross-national differences between American and South Korean mixed martial arts fans. *International Journal of Sports Marketing & Sponsorship*. 2009; 10(2): p. 157-170.
30. Kim H, Chalip L. Capitalizing on a sport's association with an international destination: the illustrative example of Tae Kwon Do. *Journal of Sport & Tourism*. 2010; 15(4): p. 307-335.
31. Ko YJ. Martial arts industry in the new millennium. *Journal of Martial Arts Studies*. 2002; 5: p. 10-23.
32. Inosanto D, Johnson GL, Foon G. *Filipino Martial Arts: Know Now* Publishing Company; 1980.
33. Paman JG. *Arnis self-defense: stick, blade, and empty-hand combat techniques of the Philippines* Berkeley: Blue Snake Books / Frog, Ltd.; 2007.
34. Presas EA. *Arnis: Presas style and balisong* Manila: Ernesto A. Presas; 1996.
35. Giron L. *Giron Escrima: memories of a bladed warrior* Los Angeles: Empire Books; 2006.
36. Wiley MV. *Filipino Martial culture* North Clarendon: Tuttle Publishing Co., Inc.; 1997.
37. Capner SD. *Taekwondo: the spirit of Korea*. 1st ed.: Ministry of Culture and Tourism, Republic of Korea; 2000.
38. Cook D. *Traditional Taekwondo: core techniques, history and philosophy* Lanham: National Book Network; 2006.
39. Whang SC, Whang JC, Saltz B. *Taekwondo: the state of the art*. 1st ed. New York: Broadway Books; 1999.
40. Sweet RJ. *Life in balance: why study taekwondo philosophy?* Colorado Springs: United States Taekwondo Union; 1998.
41. Lee KM. *Taekwondo: philosophy and culture* Elizabeth: Hollym International Corp.; 2001.
42. Robinson MB. Developing a cultural awareness scale : an assessment of sensitivity to cultural differences in children from the "culture of poverty". 1974..
43. Dunaway KE, Morrow JA, Porter BE. Development and validation of the cultural competence of program evaluators (CCPE) self-report scale. *American Journal of Evaluation*. 2012 Dec; 33(4): p. 496-514.
44. Williams BE. Development and initial validation of the Williams-Proctor Cultural Competence Scale: Assessment for youth development professionals and paraprofessionals. 2007.
45. Sue D. 2001. *The Counseling Psychologist*. 2001; 29(6): p. 790-821.
46. Gamst G, Dana R, Der-Karabetian A, Aragon M, Arellano L, Morrow G, et al. Cultural Competency Revised: The California Brief Multicultural Competence Scale. *Measurement and Evaluation in Counseling and Development*. 2004; 37: p. 163-183.
47. Cornelius L, Booker T, Arthur T, Reeves I, Morgan O. The Validity and Reliability Testing of a Consumer-Based Cultural Competence Inventory. *Research on Social Work Practice*. 2004; 14(3): p. 201-209.
48. Little TD, Lindenberge U, Nesselroade JR. On selecting indicators for multivariate measurement and modeling with latent variables: When "good" indicators are bad and "bad" indicators are good. *Psychological Methods*. 1999; 4(2): p. 192-211.
49. Vaske JJ. *Survey Research and Analysis: Applications in parks, recreation and human dimensions* State College: Venture Publishing, Inc.; 2008.
50. Stephenson W. *The study of behavior: Q technique and its methodology* Chicago: University of Chicago Press; 1953.
51. Kass R, Tinsley H. The latent structure of the need satisfying properties of leisure activities. *Journal of Leisure Research*. 1979; 11(4): p. 278-291.
52. Fabrigar LR, MacCallum RC, Wegener DT, Strahan EJ. Evaluating the use of Exploratory Factor Analysis in Psychological research. *Psychological Methods*. 1999; 4(3): p. 272-299.
53. Raubenheimer J. An item selection procedure to maximise scale reliability and validity. *Journal of Industrial Behavior*. 2004; 30(4): p. 59-64.
54. Floyd FJ, Widaman KF. Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*. 1995; 7(3): p. 286-299.
55. Matsunaga M. How to factor-analyze your data right: do's, don't's, and how-to's. *International Journal of Psychological Research*. 2010; 3(1): p. 97-110.
56. Anastasi A. *Psychological testing* New York: Macmillan; 1988.
57. Carmines EG, Zeller RA. *Reliability and validity assessment* Thousand Oaks: Sage Publications, Inc; 1979.
58. Conway JM, Huffcutt AI. A review and evaluation of exploratory factor analysis practices in organizational research. *Organizational Research Methods*. 2003; 2: p. 147-168.
59. Levant RF, Rogers BK, Cruickshank B, Rankin TJ, Kurtz BA, Rummell CM, et al. Exploratory factor analysis and construct validity of the male role norms inventory-adolescent-revised (MRNIS-A-r). *Psychology of Men & Masculinity*. 2012; 13(4): p. 354-366.



60. Ramaswami S, Babo G. Investigating the construct validity of the ISLLC 2008 standards through exploratory factor analysis. *International Journal of Educational Leadership*. 2012; 7(2).
61. Underwood LG, Teresi JA. The daily spiritual experience scale: development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *Annals of Behavioral Medicine*. 2002; 24(1): p. 22-33.
62. Gould J, Moore D, McGuire F, Stebbins R. Development of the serious leisure inventory and measure. *Journal of Leisure Research*. 2008; 40(1): p. 47-68.

**Address for correspondence:**

John Malmo

Department of Sport Management, Rogers State University, Claremore, Oklahoma, USA

PO Box 654, Bentonville, AR 72712

Tel. (479)640-4455

e-mail: jmalmo@rsu.edu

Received: 11.11.2016

Accepted: 05.09.2017