



**An Assessment of Instructional Methods, Student Perceptions, and Skill Acquisition  
in a Collegiate Beginner Hapkido Class**

### Abstract

Regular exercise in the form of martial arts is a viable method of promoting positive physical and psychosocial outcomes for practitioners worldwide. While certain styles are popular in many countries around the world, the Korean art of Hapkido has seen limited scientific examination in academic research. The goals of this study were to evaluate potential benefits of completing a beginner collegiate Hapkido physical education course, critically examine student perceptions of instructional methods and practice structure, and determine the extent to which students were able to acquire basic techniques. In a pretest-posttest design, students ( $n = 36$ ) were surveyed about intrinsic characteristics and perceptions of instruction and evaluated on acquired skills. Results indicated a significant increase in self-perceptions of knowledge ( $p < .001$ ) and interest ( $p = .029$ ) in Hapkido along with interest in martial arts ( $p = .008$ ) and areas such as self-perceived athletic ability ( $p = .007$ ), fitness ( $p = .015$ ), self-defense capability ( $p < .001$ ), and self-defense confidence ( $p = .001$ ). Instructional strategies included verbal explanations with an emphasis on physical demonstrations, and a blocked practice style was utilized in conjunction with both reinforcing and corrective feedback. A majority of students reported an attentional focus on the correct steps or body positioning related to each technique, rather than proper movement outcome, suggesting that internal foci were encouraged. Skills testing conducted by four independent raters revealed that students scored an average of 83% on the posttest, suggesting substantial progress over the 16-week period. These findings substantiate claims that physical education activity courses can be effective at increasing knowledge and skills that may contribute to success along with an inclination for future involvement. In addition, pedagogical strengths and weaknesses are elucidated and discussed.

*Keywords: Hapkido, Martial Arts, Physical Education, Sport Pedagogy, Motor Learning*

## **Introduction**

### *Background*

Previous empirical research has documented the physical and psychosocial benefits of martial arts training (Binder, 2007; Croom, 2014; Fong, Ng, & Chung, 2013). A literature review by Binder (2007) that spanned three decades of research concluded that martial arts training promotes positive psychosocial change in participants, rather than an increased proclivity for violence and aggression, due to the influence of positive role models and the ethical, moral, or spiritual principles that are concurrently conveyed during training. In a philosophical piece by Croom (2014), it is suggested that the study of martial arts contributes to psychological well-being and mental health through its contributions to positive emotion, engagement, relationships, meaning, and accomplishment (PERMA). When compared with sedentary individuals, physical benefits of participation include improved aerobic capacity, body fat percentage, strength, coordination, balance, and stability, while psychosocial benefits may include increased assertiveness, discipline and respect, cognitive and affective self-regulation, prosocial behavior, self-esteem, and cognitive performance (Douris & Chinan, 2004; Lakes & Hoyt, 2004; Weiser, Kutz, Kutz, & Weiser, 1995; Zetaruk, Violan, Zurakowski, & Micheli, 2005). For example, in a study by Lakes and Hoyt (2004), over 200 children from kindergarten through fifth grade were randomly assigned to either participate in a martial arts group or a traditional physical education group during their school day. Results indicated greater improvements for the martial arts group in areas of cognitive self-regulation, affective self-regulation, prosocial behavior, classroom conduct, and performance on a mental math test. Such benefits have been observed in diverse age groups, including elementary school children, middle school teenagers, at-risk youth, and the elderly (Brudnak, Dundero, & Van Hecke, 2002; Lakes & Hoyt, 2004; Woodward, 2009; Zivin

et al., 2001). In a study by Brudnak, Dundero, and Van Hecke (2002), the potential benefits of participating in a structured Taekwondo program were examined in an elderly population. From baseline testing, increases in strength, flexibility, and balance were observed at the conclusion of the intervention. Additionally, positive outcomes have been demonstrated in populations such as children with autism spectrum disorder (ASD), individuals with disabilities such as visual impairment, and women (Guthrie, 1995; Movahedi, Bahrami, Marandi, & Abedi, 2013; Qasim, Ravenscroft, & Sproule, 2014).

For many practitioners, martial arts training offers a goal-driven and disciplined, yet enjoyable, form of physical activity that may act as an alternative to more “traditional” forms of exercise (e.g., jogging or weightlifting) while also offering opportunities to learn new motor skills and establish social relationships (Woodward, 2009). In addition to being a form of physical activity, it has the potential to act as a stress reliever and form of therapeutic recreation while also increasing quality of life (Burke, Al-Adawi, Lee, & Audette, 2007; Draxler, Ostermann, & Honekamp, 2010; Naves-Bittencourt et al., 2015; Weiser, Kutz, Kutz, & Weiser, 1995). In a literature review by Naves-Bittencourt and colleagues (2015), it was concluded that regular performance of martial arts could improve mindfulness, stress reactivity, and general well-being of practitioners. Furthermore, it can be a tool for resolving intrapersonal, interpersonal, and organizational conflict; in fact, many martial arts end with the suffix “Do” (e.g., Aikido, Hapkido, Judo, Kendo, Taekwondo), meaning that they can be a path for self-improvement and spiritual enlightenment (Friedman, 2016). This body of research suggests that (a) the potential benefits of martial arts participation are numerous and diverse, and (b) these benefits are potentially far-reaching to individuals of varied backgrounds and cultures. As a

result, the study of martial arts in empirical research is an important pursuit that may yield new insights or information regarding such an interesting and complex phenomenon.

While Asian martial arts such as Japanese Jiu-Jitsu and Judo were introduced to the West around the turn of the 19<sup>th</sup> Century, others in this category (e.g., Japanese Aikido, Karate, and Kendo, and Korean Taekwondo) only started to become known and popular in the 1950s and onward (Theeboom & De Knop, 1999). Previous research in the field of youth sports suggests that martial arts are among the most popular extracurricular sports that are practiced internationally by children and adolescents ages 10-15 years, and they constitute one of the top ten most practiced sports overall in Europe (Clearing House, 1997; De Knop et al., 1996). Participation in the Olympic games also provides evidence of the international popularity of martial arts. Two of the arts, including Japanese Judo and Korean Taekwondo, received Olympic recognition in 1964 and 1988, respectively, and maintain this status currently. Another driving factor in the increased interest in traditional martial arts is likely the surging popularity of mixed martial arts (MMA) competitions (Andrew, Kim, O'Neil, Greenwell, & James, 2009; Woodward, 2009). In such competitions, fighters are required to be well-rounded and must possess a diverse array of striking and grappling skills, along with high levels of fitness, knowledge, and strategy to be successful. Thus, MMA training typically incorporates techniques from numerous martial arts rather than a single style.

Certain styles such as Taekwondo (e.g., Fong & Ng, 2011; Fong, Fu, & Ng, 2012; Fong, Ng, & Chung, 2013; Willey, Fife, & O'Sullivan, 2012) or Chinese Tai Chi (see Jahnke, Larkey, Rogers, Etnier, & Lin, 2010 for a review) have been examined extensively in empirical research, but others have not been explored in as much detail. Cross-sectional studies by Fong and colleagues (2012, 2013) concluded that Taekwondo can improve balance, vestibular function,

and reaction time when compared with participants in a control group. A comprehensive review of randomized control trials (RCTs) addressing the health benefits of Tai Chi by Jahnke et al. (2010) demonstrated consistent, significant benefits, including enhanced bone density, cardiopulmonary capacity, functional physical fitness, self-efficacy, immune function, and quality of life. Research on the diverse and complex martial art of Korean Hapkido has been limited (Johnson & Kang, 2018). The term *Hapkido*, may be translated as the “Way of Coordinated Power” or literally “Coordinated Internal Energy Way” (“United States Hapkido Federation,” n.d.). Although the early history of Hapkido is difficult to fully ascertain due to the verbal nature in which teaching and records were initially communicated, it is generally accepted that the modern version of Hapkido was founded shortly after the conclusion of World War II (1945) by a Korean martial artist named Choi Yong-Sul, who is often considered to be the “father” or grandmaster of the art (Tedeschi, 2000; 2015). It should be noted, however, that certain Hapkido schools or disciplines may dispute this attribution depending on their lineage or philosophy. Instructors such as Mu-Gil Lee, Ki-Duk Lee, and Donald J. Burns facilitated the introduction and expansion of Hapkido, along with other Korean marital arts, throughout the midwestern United States from the 1970s onward (Burdick, 2019). Hapkido is an eclectic martial art that draws influence from several older arts, including the Japanese arts of Judo, Karate, and Aikido, and Korean arts such as Taekwondo and Tang Soo Do. Perhaps its most striking features are its unique blend of both striking (e.g., punches or kicks) and grappling techniques (e.g., chokes or joint locks) and a doctrine that emphasizes situational self-defense and personal protection (i.e., “street application”) and practical control techniques for professionals such as police officers, security personnel, or prison guards (Burns, 1996; Tedeschi, 2000; Tedeschi, 2015). Previous research has provided empirical evidence that participation in sports and

specifically, combat sports, can be life-long activities with positive psychological benefits, such as confidence, resilience, and tenacity, regardless of whether participation is oriented towards competition or personal goals (Matsumoto, Konno, & Ha, 2009). However, more specifically, Matsumoto, Konno, and Ha (2009) suggest that competitive settings can be useful for managing and coping with stress, facilitating emotional regulation skills, and increasing self-efficacy.

Outside of a traditional dojang (training hall), one prominent location that prospective students may be able to study martial arts is the college or university, in the form of a physical education activity course in which students enroll and receive academic credit for participation. Previous research has shown that students enroll in sport skills courses for varied reasons, including to learn a new activity, have fun, improve skills, and increase physical activity levels (Leenders, Sherman, & Ward, 2003). However, physical education course requirements at American universities are generally low, so such courses are generally chosen as electives based on the preferences, perceptions, or interests of the student (Cardinal, Sorenson, & Cardinal, 2012). Because students and instructors often have significant time, effort, and financial resources invested in the preparation, administration, and completion of such courses, it is important to examine the potential outcomes, both physical and psychological, to obtain empirical evidence of the implied benefits of participation.

### *Purpose*

The purposes of the current study were threefold: (1) to evaluate the potential benefits of completing a beginner Hapkido physical education course in terms of student self-perceptions, (2) to critically examine student perceptions of instructional methods and practice structure, and (3) to determine the extent to which students were able to acquire basic Hapkido techniques in an introductory course.

## Methods

### *Participants*

This study consisted of 36 students: 13 males and 23 females, ranging in age from 18 – 34 years old ( $M = 20.78$ ,  $SD = 2.93$ ), who were enrolled in a beginner Hapkido activity course at a midwestern public university. Most participants ( $n = 29$ ) self-described as beginners (i.e., less than one year of experience) in the martial arts ( $n = 14$ ), while four listed themselves as intermediate (i.e., 1-4 years of experience), and three listed themselves as advanced (i.e., greater than four years of experience). All participants self-described as beginners (i.e., less than one year of experience) in the art of Hapkido. This research was approved by the university Internal Review Board, and all participants were volunteers who signed an informed consent agreement prior to data collection. Participants' responses to survey instruments were kept confidential and anonymous.

### *Materials*

For the execution of Hapkido techniques, all participants possessed a uniform of the appropriate size, which consisted of trousers and a jacket, along with a white belt to indicate rank (10<sup>th</sup> Kup). To conduct this study, the experimenter administered surveys at two time points during the semester: (1) a pretest prior to the start of instruction and (2) a posttest at the conclusion of all instructional sessions. Additionally, a learning evaluation was conducted at the conclusion of the semester that involved technique assessment. This test was adapted from the Yellow Belt Test (9<sup>th</sup> or 8<sup>th</sup> Kup) of Indiana University's Hapkido and Self-defense Club (IUSDC), which is affiliated with the United States Hapkido Federation (USHF) ("Indiana University's Hapkido and Self-defense Club," n.d.).

### *Design*



A pretest-posttest qualitative design was utilized to assess psychological outcomes in the form of students' self-perceptions in areas that may have changed as a result of completing the course. The following areas were examined: knowledge of Hapkido, interest in martial arts, interest in Hapkido, level of athletic ability, level of fitness, self-defense capability, self-defense confidence, and interest in continuing instruction beyond a beginner course (see Table 1). During the pretest, participants also provided demographic information such as age, sex, and previous martial arts experience. During the posttest only, two primary areas were assessed: (1) student perceptions of the instructional methods and practice structure via a qualitative survey, and (2) student learning outcomes in the form of a quantitative skills test. Table 2 provides a summary of responses to questions regarding instructional methods. For all survey instruments, question formatting, structure, and content were based on previous research regarding best practices in classroom assessment techniques (Angelo & Cross, 1993; Wright, 2008).

### *Procedure*

Pretest survey data was collected on the first day of class, while posttest data was collected on the last day. For a standard 16-week semester, there was 15 weeks of instruction in between each time point. To connect results from the self-perceptions assessment at both time points, each participant was assigned a random identification number that was known only to the experimenter.

For posttest data, participants first completed the qualitative portion of the study before engaging in the quantitative portion. The latter was conducted in the form of a skills test that was led by the course instructor. Each student selected a partner of approximately the same size with whom the required techniques could be demonstrated. Table 3 provides a list of each of the specific techniques that were selected for the course along with the associated scores. Students

were evaluated by a panel of four independent instructors, each of whom possessed the rank of brown belt (3<sup>rd</sup> Kup) or higher. Participants could receive a score on each technique ranging from 0-3. A score of zero was defined as performance of the incorrect or an unidentifiable technique, a score of one was defined as performance at a low level of proficiency for the novice level with severe technical errors, a score of two was defined as an average level of proficiency for the novice level with moderate technical errors, and a score of three was defined as a high level of proficiency for the novice level with limited technical errors. Both reaffirming and corrective feedback was provided to students at the conclusion of the test.

### *Data Analysis*

The dependent measures of the current study were participant responses to qualitative instruments along with participant performance on the quantitative skills test. Student self-perceptions were evaluated on a Likert scale ranging from 1-5, with each number representing the following response, respectively: very low, low, moderate, high, and very high. Scores on each Likert-scale question were entered into IBM SPSS Statistics for Windows Version 26 and analyzed. Potential differences from pretest to posttest were compared using a Wilcoxon Signed-Ranks Test for each category. For all statistical tests, alpha levels were set at .05.

Instructional methods and practice structure were evaluated using a combination of Likert scale items and open-ended questions. Items on a Likert scale ranged from 1-5, with each number representing the following response, respectively: strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. Scores on each Likert-scale question were entered into IBM SPSS Statistics for Windows Version 26 and analyzed. Potential differences from pretest to posttest were compared using a Wilcoxon Signed-Ranks Test for each category. For all statistical tests, alpha levels were set at .05. For open-ended survey questions, themes were coded

by researchers to determine trends. The resulting trends were then evaluated from a motor learning perspective to address adherence to best practices in this area.

For the quantitative skills test, participants were not pretested because all participants indicated that they were inexperienced with the martial art of Hapkido. As white belts (novices), they would have little or no prior knowledge of the techniques being tested (e.g., nomenclature, steps for execution, applications, etc.). Therefore, for the purposes of this study, it was presumed that any progress made in scoring was a result of enrollment in the course. Much like an examination in any academic course, participants were evaluated on their knowledge and performance on a scale of 90 points. Based on this information, deficiencies or proficiencies in both certain techniques and specific portions of performance could be determined. Furthermore, this scale allowed researchers to ascertain the amount of progress that each participant had made regarding skill acquisition.

## **Results**

### *Student Self-Perceptions*

When asked about their primary reason for enrolling in the course, participants chose from the following options, in order of popularity: an interest in self-defense ( $n = 16$  or 44.5%), to have fun or try something new ( $n = 7$  or 19.5%), an interest in Hapkido or martial arts ( $n = 5$  or 14%), the need for an elective or additional credits toward graduation ( $n = 4$  or 11%), increase fitness level ( $n = 4$  or 11%), and improve grade point average (GPA) ( $n = 0$  or 0%). When asked their secondary reason for taking the course, participants listed the following responses in order of prevalence: to have fun or try something new ( $n = 10$  or 28%), an interest in self-defense ( $n = 8$  or 22%), an interest in Hapkido or martial arts ( $n = 7$  or 19.5%), the need for an elective or

additional credits toward graduation ( $n = 5$  or 14%), increase fitness level ( $n = 4$  or 11%), and improve GPA ( $n = 2$  or 5.5%).

On a Likert Scale from 1 (very low) – 5 (very high), participants' median self-ratings of Hapkido knowledge on the pre-test were 2.0 with an average of 1.58 ( $SD = .65$ ). Median ratings on the posttest were 3.0 with an average of 3.28 ( $SD = .81$ ). A Wilcoxon Signed-Ranks Test revealed that participants showed significantly higher self-ratings of Hapkido knowledge on the posttest,  $Z = 5.01, p < .001$ . Participants were also asked to rate their interest in martial arts and Hapkido, specifically. Participants' median self-ratings of martial arts interest on the pre-test were 4.0 with an average of 3.83 ( $SD = .91$ ). Median ratings on the posttest were 4.0 with an average of 4.22 ( $SD = .80$ ). A Wilcoxon Signed-Ranks Test revealed that participants showed significantly higher self-ratings of martial arts interest on the posttest,  $Z = 2.64, p = .008$ . Participants' median self-ratings of Hapkido interest on the pre-test were 4.0 with an average of 3.86 ( $SD = .96$ ). Median ratings on the posttest were 4.0 with an average of 4.25 ( $SD = 0.81$ ). A Wilcoxon Signed-Ranks Test revealed that participants showed significantly higher self-ratings of Hapkido interest on the posttest,  $Z = 2.18, p = .029$ . Participants' median self-ratings of athletic ability on the pre-test were 3.0 with an average of 3.14 ( $SD = .93$ ). Median ratings on the posttest were 3.0 with an average of 3.50 ( $SD = 1.03$ ). A Wilcoxon Signed-Ranks Test revealed that participants showed significantly higher self-ratings of athletic ability on the posttest,  $Z = 2.71, p = .007$ . Participants' median self-ratings of fitness during the pre-test were 2.0 with an average of 2.81 ( $SD = 1.09$ ). Median ratings during the posttest were 3.0 with an average of 3.25 ( $SD = 1.08$ ). A Wilcoxon Signed-Ranks Test revealed that participants showed significantly higher self-ratings of fitness on the posttest,  $Z = 2.42, p = .015$ . Participants' median self-ratings of self-defense capability during the pre-test were 3.0 with an average of 2.78 ( $SD = .96$ ).

Median ratings during the posttest were 3.0 with an average of 3.61 ( $SD = .84$ ). A Wilcoxon Signed-Ranks Test showed higher self-ratings of self-defense capability on the posttest,  $Z = 3.72$ ,  $p < .001$ . Participants' median self-ratings of self-defense confidence during the pre-test were 3.0 with an average of 2.72 ( $SD = 1.06$ ). Median ratings during the posttest were 3.0 with an average of 3.58 ( $SD = 1.02$ ). A Wilcoxon Signed-Ranks Test revealed that participants showed higher self-ratings of self-defense confidence on the posttest,  $Z = 3.47$ ,  $p = .001$ . Participants' median self-ratings of interest in continuing to study Hapkido during the pre-test were 3.0 with an average of 3.31 ( $SD = 1.01$ ). Median ratings during the posttest were 4.0 with an average of 4.19 ( $SD = 1.04$ ). A Wilcoxon Signed-Ranks Test showed that participants demonstrated higher levels of interest in continuing to study Hapkido on the posttest,  $Z = 3.81$ ,  $p < .001$ . Regarding their level of apprehension prior to the Yellow Belt Test, participants indicated a median score of 2.0 with an average of 2.56 ( $SD = 1.23$ ).

#### *Instructional Methods and Practice Structure*

Participants' scores on both qualitative and open-ended questions were recorded and analyzed to provide an indication of students' opinions concerning the quality and substance of instructional methods in the class. Students who completed the survey reported having approximately one absence for the duration of the term ( $M = .87$ ,  $SD = 1.10$ ) with a range from 0-3 absences. Results on a Likert scale from 1 (strongly disagree) – 5 (strongly agree) indicated that the instructor was enthusiastic ( $Med = 5.0$ ,  $M = 4.81$ ,  $SD = .71$ ), well-prepared ( $Med = 5$ ,  $M = 4.75$ ,  $SD = .73$ ), and displayed a positive attitude ( $Med = 5.0$ ,  $M = 4.86$ ,  $SD = .68$ ). The instructor utilized a combination of verbal explanations ( $Med = 3.0$ ,  $M = 3.25$ ,  $SD = 1.40$ ) and physical demonstrations ( $Med = 5.0$ ,  $M = 4.47$ ,  $SD = .84$ ) to teach the course with a preference toward demonstration. Mental aspects of skill performance ( $Med = 4.0$ ,  $M = 4.20$ ,  $SD = .76$ ) were

discussed and somewhat emphasized according to students. Students felt that their technical skills improved as a result of course enrollment ( $Med = 5.0, M = 4.50, SD = .61$ ), and they felt as though they received feedback often ( $Med = 5.0, M = 4.53, SD = .65$ ). This feedback was generally presented equally after both good trials ( $Med = 4.0, M = 3.81, SD = 1.01$ ) and poor trials ( $Med = 4.0, M = 3.92, SD = .97$ ). Participants generally engaged in practice in a blocked format ( $Med = 5.0, M = 4.39, SD = .93$ ), in which the same skill was repeated consecutively until a sufficient number of repetitions were completed, as determined by the course instructor.

The majority of participants ( $n = 33$  or 92%) reported that the number of learned techniques and course pacing were appropriate while two (5%) reported that it was too slow and one (3%) reported that it was too rapid. A majority of participants ( $n = 31$  or 86%) felt that the feedback that was provided throughout the course had an approximate equal balance of reinforcing and corrective content. While no students felt that the feedback was primarily reinforcing, five (14%) reported feedback as primarily corrective in nature. In terms of attentional focus, a majority of participants ( $n = 29$  or 81%) reported an internal focus of attention on achieving the correct steps or body positioning, while only seven (19%) reported a focus on primarily external factors such as outcomes or results. Regarding the number of techniques learned, a majority of participants ( $n = 29$  or 81%) indicated that they felt as though there was an appropriate amount. Some students ( $n = 5$  or 14%) indicated a desire to learn more techniques during the semester while fewer ( $n = 2$  or 5%) would have selected fewer techniques.

Based on both student accounts and experimenter observations, a typical practice session was approximately 1.5-2 hours and was structured as follows: (1) a ceremonial bow that initiated the class session, (2) a discussion of logistical items and introduction of course concepts for the day that lasted approximately 5 minutes, (3) a warm-up featuring cardiovascular exercises and

static stretching for approximately 10-15 minutes, (4) rehearsal of fundamentals known as “running the mat” (i.e., a series of dynamic, or moving, repetitions that covered the length of the practice area) for approximately 15-20 minutes, (5) instruction related to new concepts and techniques for approximately 15-20 minutes, (6) rehearsal of new techniques for approximately 25-30 minutes, (7) time for questions and answers lasting approximately 5-10 minutes, depending on the number of questions or length of commentary, (8) two or three hydration breaks over the course of the training session that lasted approximately 5-10 minutes in total, (9) grip-strengthening exercises followed by an epilogue that discussed the greater context of the techniques learned that day for approximately 5 minutes, and (10) a ceremonial bow that concluded the class.

Open-ended questions were analyzed by researchers and coded for themes. Student goals revolved around increasing self-defense capability and learning new skills and techniques related to the martial arts, generally, or Hapkido, specifically. The most helpful forms of practice included partner practice, repetition of drills, running the mat, and striking pads with punches or kicks. With regards to the least helpful forms of practice, a majority of responders ( $n = 23$  or 64%) indicated that all forms of practice were at least somewhat helpful. There were a few ( $n = 3$  or 8%) that did not appreciate the potential benefits of running the mat. Perceived strengths of instruction included a balance of verbal explanation along with a sufficient amount of technique demonstration, large amounts of feedback, competency, and enthusiasm. When discussing weaknesses of instruction, 21 students (58%) felt that the instruction was adequate in its current content and methodology. Several students did, however, indicate a desire for either more incorporation of striking pads or more instructor interaction. When discussing weaknesses of the course, 15 (42%) felt it was adequate in its current format. Suggestions mirrored those associated

with improving instruction but included conducting class sessions on two days per week rather than one and switching partners throughout the semester to diversify learning experiences. When discussing preferred techniques, kicks were mentioned the most ( $n = 14$  or 39%), followed by joint locks ( $n = 7$  or 19%), and regrabs ( $n = 6$  or 17%). When discussing the least preferred techniques, a significant number of students also listed kicks ( $n = 11$  or 31%), followed by regrabs ( $n = 5$  or 14%), moving punch ( $n = 5$  or 14%), and falling ( $n = 3$  or 8%). Finally, when asked about the most challenging technique of the course, a significant number of students listed the side kick ( $n = 16$  or 44%) while several listed regrabs ( $n = 4$  or 11%) or moving punch ( $n = 3$  or 8%).

### *Skills Test*

Averages and standard deviations for individual techniques can be found in Table 3. For each category of techniques, the following order was revealed from best to worst: falling techniques, which consisted of a back and side breakfall ( $M = 2.82$ ,  $SD = .23$ ), blocking techniques, which included inside, outside middle, low inside, low outside, and high blocks ( $M = 2.79$ ,  $SD = .32$ ), striking techniques, which consisted of reverse punch, moving punch, palm heel, tiger claw, and vertical punch ( $M = 2.79$ ,  $SD = .32$ ), punch defenses, which included three variations ( $M = 2.79$ ,  $SD = .34$ ), situational defense techniques, which featured arms pinned from the rear, a waist grab with arms free from the rear, an arm choke from the rear, and a hand choke from the front ( $M = 2.77$ ,  $SD = .34$ ), regrab techniques, which included up, down, inside, outside, and cross-step and turn ( $M = 2.68$ ,  $SD = .42$ ), kicking techniques that consisted of the knee, front, half moon, and side variations ( $M = 2.63$ ,  $SD = .48$ ), and basic joint locks that can be transitioned to throws that take the opponent to the ground from a standing position ( $M = 2.50$ ,  $SD = .53$ ).



After totaling all performance scores, participants averaged approximately 83 points ( $SD = 4.08$ ,  $Min = 72$ ,  $Max = 88$ ) out of 90 points possible.

## **Discussion**

### *Findings and Implications*

These results provide insight into participant self-perceptions, student course opinions, instructional methods, and the specific skills acquired during a 16-week introductory Hapkido class. Results indicated that students, a majority of whom self-described as beginners in both the martial arts and Hapkido, felt that their knowledge and interest in both martial arts in general and the art of Hapkido, specifically, had increased as a result of taking the course. These results support the potential positive impact of university physical education activity courses with respect to growing the participatory population and increasing exposure to extracurricular activities. A course such as this one has the potential to produce future lifelong martial artists or lead an individual to recommend the activity to a family member, friend, or acquaintance. These outcomes could help grow the art of Hapkido for future generations. Furthermore, students self-described as having higher levels of athletic ability and overall fitness after taking the course. These perceptual changes could have positive correlations with outcomes such as increasing one's self-esteem, aerobic or anaerobic performance capability, or increasing one's quality of life through participation in higher amounts of regular physical activity. If colleges and universities can use their course offerings to generate an increased interest in endeavors that feature significant levels of physical activity, this could be a mechanism that assists in combating the obesity epidemic that has become embedded in American culture (Moore, Harris, Carlson, Kruger, & Fulton, 2012).

It is also important to note that student perceptions of capability and confidence in self-defense, and interest in continuing instruction beyond a beginner course significantly increased. Hapkido is an art that is useful for self-defense purposes, and although the overall idea of self-defense can be difficult to conceptualize due to the extensive number of variables involved, it is important that individuals possess an accurate perception and understanding of their current capability level and a level of confidence that can be projected regularly. Previous research suggests fear of violence due to gendered power relations in society can undermine women's confidence in everyday pursuits, particularly in urban settings (Koskela, 1997). However, research also suggests that women who participate in self-defense training can decrease the likelihood of violence and sexual assault through increased knowledge, situational awareness, and confidence in their ability to effectively resist such an encounter, when compared to women who have not learned and practiced principles of self-defense (Hollander, 2014). It may be beneficial for courses addressing the topic of self-defense to create realistic scenarios in practice that feature an attack with a counterattack, in real time, as may be seen outside the relatively controlled confines of the *dojang* (*training hall*). These could be analyzed and discussed as a group by students and instructor(s) to encourage critical thinking skills and adaptability. An intermediate or advanced course or a university club that meets regularly in which instruction goes beyond fundamental technique drilling could be an ideal setting to address common practical, real-world scenarios that could lead to violence and help students feel better prepared should they encounter such a conflict.

Student and experimenter accounts of practice structure indicated a consistent format from one session to the next, particularly after the first few introductory weeks of the semester were complete. Since Hapkido is an eclectic martial art, both “soft” elements (e.g., grappling

aspects such as joint locks and chokes or strangles) along with “hard” elements (e.g., blocks, strikes, and kicks) were emphasized in the course (Tedeschi, 2000; 2015). Student accounts of practice scheduling generally indicated a blocked format, in which the same technique is performed repeatedly, which is appropriate for novice learners seeking mastery of fundamentals (Schmidt & Lee, 2019). The present study indicates that a variety of instructional techniques were utilized including a combination of verbal explanations and physical demonstrations, with an emphasis on the latter. This strategy is consistent with motor learning research that indicates that a variety of methods or strategies should be utilized to reach a potentially diverse group of learners.

Regarding feedback, it has been suggested that instructors vary the type of feedback they utilize (i.e., reinforcing or positive and punishing or corrective) while also limiting feedback as the learner gains experience, understanding, and skill (Salmoni, Schmidt, & Walter, 1984). Results of the present study suggest a balance between both positive (reinforcing) and corrective (punishing) feedback to improve technique. While a balance between these two categories is critical to improved performance, it is difficult to ascertain whether feedback was plentiful at the start of the semester and more limited at the conclusion of the semester due to the nature of the study and the level of detail required to quantify such a variable. Based on the current results, participants received feedback after both good and poor trials in approximately equal numbers, which suggests a balance from the instructor. Previous research in this area has shown benefits for feedback after both trials perceived as good by the learner and trials that are quantifiably good in relation to others (Chiviakowsky & Wulf, 2005; 2007). As learners gain more knowledge and understanding, it may be beneficial to solicit their opinions about the quality of a trial and what should be replicated or altered for improvement.

A plethora of attentional focus research suggests that learners should utilize an external focus of attention that is directed toward the effects of movement rather than the process of movement to improve motor skill performance (Wulf & Lewthwaite, 2016; Wulf & Prinz, 2001). This recommendation may be problematic in Hapkido since there are no outside implements or targets to direct attentional focus and much of the process of producing proper technique involves positioning one's own body in a proper manner as it corresponds to a partner's responsive movements. The results of the present study indicated that most learners focused on executing the correct steps or body positioning of each technique rather than producing a certain outcome, suggesting that the attentional focus of most participants was mainly internal. Based on these results, it may be helpful for instructors to facilitate an external focus of attention in novice learners as early as possible by providing specific environmental cues, such as visual targets on the opponent, wall, or floor.

Overall, students received an average rating of approximately 83 out of 90 total points (92%) on skills testing. Since novices are not likely to possess the requisite vocabulary and knowledge for successful performance of techniques, there was no pretest conducted to determine participant skill level prior to taking the course. Instead, it was assumed that final skills test performance was primarily a result of course participation. These results are impressive considering that participants learned 30 separate techniques over the course of the semester, with some of these requiring multiple underlying techniques to be holistically successful.

Several interesting results emerge from skill testing. First, the overall average score (92%) indicates substantial learning and skill refinement over the semester, considering that all participants were initially novices in the art of Hapkido. Secondly, participants were assessed in

multiple areas, and overall performance range from best to worst in the following order: falling, blocking, striking, punch defense, situational defense, regrab techniques, kicking, and joint locks that transition to throws. Some of these techniques are fundamental and underly others (e.g., falling is a prerequisite to throws and both striking and blocking are prerequisites to punch defenses), but this order suggests that students may benefit from more practice in the areas of countering the aggressive grip of an attacker, kicking techniques, and methods of throwing. Finally, performers were given the opportunity to choose their preferred hand for performance of several techniques (e.g., regrab, joint locks, punch defenses). While most performers will prefer predominantly executing a task with a single side of the body (i.e., right hand or foot for the majority of the population), it may be helpful to emphasize ambidextrous practice even in early stages of learning due to potential long-term benefits such as versatility and increased skill through bilateral transfer (Schmidt, Lee, Winstein, Wulf, & Zelaznik, 2018).

### *Limitations*

The current study featured results from two classes of a single Hapkido instructor at a Midwestern university in the United States. It is difficult to determine if these results would generalize to all Hapkido classes. Additionally, when considering the diversity and complexity of techniques in Hapkido, instructional methods may differ across instructors and other locations greatly. Content experts and previous research in survey design were consulted to guide the creation of instruments in this study, but these tools have not been rigorously tested for reliability and validity and were designed solely for conduction of the current study. Further examination is needed to determine if the format or content could be applied to future Hapkido research. Finally, performances during practice and testing were not recorded in the current study, and thus, additional review of instruction, feedback, and scoring for testing are not possible. The ability to

replay sessions and techniques to discuss specific aspects would have likely improved the validity and reliability of both the instructional and evaluation process.

### *Conclusions and Future Directions*

The current study was designed to evaluate the potential benefits of completing an introductory Hapkido physical education course through a critical examination of three primary areas: (1) student self-perceptions, (2) student perceptions of instructional methods and practice structure, and (3) student learning of basic Hapkido techniques. These results concur with previous research that suggests that university physical education courses can increase student interest and knowledge in the area in question while also improving student perceptions of athletic ability and fitness (Fisher, 2019). Furthermore, instructors of such courses should carefully consider and incorporate motor learning principles regarding topics such as practice structure, feedback, and attentional focus to improve learning outcomes. Although one semester is a relatively short time period and motor skill acquisition is complex, it is evident based on these results that novices can make significant progress during a single term, and these results have the potential to influence future levels of physical activity participation. The current study focuses on one instructor of a single martial art, and due to the abundance of instructors and styles across the globe, more research is needed with additional populations to determine the generalizability of these results.

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### **Declaration of Interest Statement**

The author wishes to confirm that there are no known conflicts of interest associated with this publication and there has been no financial support for this work that could have influenced its outcome. The author has given due consideration to the protection of intellectual property associated with this work and there are no impediments to publication, including the timing of publication, with respect to intellectual property. The regulations of the institution at which the research occurred have been followed. The author further confirms that any aspect of the work covered in this manuscript that involved human participants has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within the manuscript.



## References

- Andrew, D. P. S., Kim S., O'Neal, N., Greenwell, T. C., & James, J. D. (2009). The relationship between spectator motivations and media and merchandise consumption at a professional mixed martial arts event. *Sport Marketing Quarterly*, 18, 199-209.
- Angelo, T. & Cross, P. (1993). *Classroom assessment techniques: A handbook for college teachers*. San Francisco, CA: Jossey-Bass Publishers.
- Binder, B. (2007). Psychosocial benefits of the martial arts: Myth or reality? A literature review, retrieved 29 April, 2019.
- Brudnak, M. A., Dundero, D., Van Hecke, F. M. (2002). Are the 'hard' martial arts, such as the Korean martial art, Tae Kwon Do, of benefit to senior citizens? *Medical Hypotheses*, 59(4), 485-491.
- Burdick, D. (2019). *Fifty years of Korean martial arts at Indiana University Bloomington*. Unpublished manuscript, ResearchGate.
- Burke, D. T., Al-Adawi, S., Lee, Y. T., & Audette, J. (2007). Martial arts as sport and therapy. *Journal of Sports Medicine and Physical Fitness*, 47, 96-102.
- Burns, D. J. (1996). *An introduction to Hapkido for student and teacher*. Bloomington, IN: Indiana University Press.
- Cardinal, B. J., Sorensen, S. D., & Cardinal, M. K. (2012). Historical perspective and current status of the physical education graduation requirement at American 4-year colleges and universities. *Research Quarterly for Exercise and Sport*, 83(4), 503-512.
- Chiviacowsky, S., & Wulf, G. (2007). Feedback after good trials enhances learning. *Research Quarterly for Exercise and Sport*, 78(1), 40-47.
- Chiviacowsky, S., & Wulf, G. (2005). Self-controlled feedback is effective if it is based on the learner's performance. *Research Quarterly for Exercise and Sport*, 76, 42-48.
- Clearing House (1997). Sports participation in Europe. *Sport Information Bulletin*, 10, 5-56.
- Croom, A. M. (2014). Embodying martial arts for mental health: Cultivating psychological well-being with martial arts practice. *Archives of Budo: Science of Martial Arts and Extreme Sports*, 10, 59-70.
- De Knop, P., Engström, L. M., Skirstad, B., & Weiss, M. R. (Eds) (1996). *Worldwide trends in youth sport*. Champaign, IL: Human Kinetics.
- Douris, P., & Chinan, A. (2004). Fitness levels of middle-aged martial art practitioners. *British Journal of Sports Medicine*, 38(2), 143-147.

- Fisher, K. M. (2019). An assessment of instructional methods, student perceptions, and skill acquisition in a collegiate beginner judo class. *International Journal of Martial Arts*, 5(2), 1-14.
- Friedman, H. L. (2016). Using Aikido and transpersonal psychology concepts as tools for reconciling conflict: Focus on Aikido and related martial arts, such as Hapkido. *NeuroQuantology*, 14(2), 213-225.
- Thomas, D., Ostermann, H., & Honekamp, W. (2010). Relationship between Asian martial arts and health-related quality of life in Germany. *Journal of Public Health*, 19(1), 57-64.
- Fong, S. S. M., & Ng, S. S. M. (2011). Does Taekwondo improve physical fitness? *Physical Therapy in Sport*, 12, 100-106.
- Fong, S. S. M., Fu, S., & Ng, S. S. M. (2012). Taekwondo training speed up the development of balance and sensory functions in young adolescents. *Journal of Science and Medicine in Sport*, 15, 64-68.
- Fong, S. S. M., Ng, S. S. M., & Chung, L. M. Y. (2013). Health through martial arts training: Physical fitness and reaction time in adolescent Taekwondo practitioners. *Health*, 5, 6A3, 1-5.
- Guthrie, S. R. (1995). Liberating the Amazon: Feminism and the martial arts. *Women and Therapy*, 16, 107-119.
- Hollander, J. A. (2014). Does self-defense training prevent sexual violence against women? *Violence Against Women*, 20(3), 252-269.
- Indiana University's Hapkido and Self-defense Club (n.d.). Retrieved from <http://www.indiana.edu/~iusdc/index.html>.
- Jahnke, R., Larkey, L., Rogers, C., Etnier, J., & Lin, F. (2010). A comprehensive review of the health benefits of Qigong and Tai Chi, *American Journal of Health Promotion*, 24(6), e1-e25.
- Johnson, J. A., & Kang, H. J. (2018). Hapkido research trends: A review. *Journal of Martial Arts Anthropology*, 18(3), 42-50.
- Koskela, H. (1997). Bold walk and breakings: Women's spatial confidence versus fear of violence. *Gender, Place, and Culture*, 4(3), 301-319.
- Lakes, K. D., & Hoyt, W. T. (2004). Promoting self-regulation through school-based martial arts training. *Applied Developmental Psychology*, 25, 283-302.

- Leenders, N. Y. J. M., Sherman, W. M., & Ward, P. (2003). College physical activity courses: Why do students enroll, and what are their health behaviors? *Research Quarterly for Exercise and Sport*, 74(3), 313-318.
- Matsumoto, D., Konno, J., & Ha, H. Z. (2009). Sport psychology in combat sports. In R. Kordi, N. Maffulli, R. R. Wroble, and W. A. Wallace (eds.). *Combat Sports Medicine*. London, England: Springer Verlag.
- Moore, L. V., Harris, C. D., Carlson, S. A., Kruger, J., & Fulton, J. E. (2012). Trends in no leisure-time physical activity - United States, 1988-2010. *Research Quarterly for Exercise and Sport*, 83(4), 587-591.
- Movahedi, A., Bahrami, F., Marandi, S. M., & Abedi, A. (2013). Improvement in social dysfunction of children with autism spectrum disorder following long term kata techniques training. *Research in Autism Spectrum Disorders*, 7, 1054-1061.
- Naves-Bittencourt, W., Mendonca-de-Sousa, A., Stults-Kolehmainen, M., Fontes, E., Cordova, C., Demarzo, M., & Boullosa, D. (2015). Martial arts: Mindful exercise to combat stress. *European Journal of Human Movement*, 34, 34-51.
- Paset, F., Ferrer-Sapena, A., Villmaon, M., Gonzalez, L., Toca-Herrera, J., Aleixandre-Benavent, R. (2013). Scientific literature analysis of judo in Web of Science, *Archives of Budo*, 9(2), 81-91.
- Qasim, S., Ravenscroft, J., & Sproule, J. (2014). The effect of karate practice on self-esteem in young adults with visual impairment: A case study. *Australian Journal of Educational and Developmental Psychology*, 14, 167-185.
- Salmoni, A. W., Schmidt, R. A., & Walter, C. B. (1984). Knowledge of results and motor learning: A review and critical appraisal. *Psychological Bulletin*, 95(3), 355-386.
- Schmidt, R. A., & Lee, T. D. (2019). *Motor learning and performance: From principles to applications*, (6th ed.). Champaign, IL: Human Kinetics.
- Schmidt, R. A., Lee, T. D., Winstein, C., Wulf, G., & Zelaznik, H. (2018). *Motor control and learning: A behavioral emphasis* (6th ed.). Champaign, IL: Human Kinetics.
- Tedeschi, M. (2015). *Hapkido: An introduction to the art of self-defense*. Warren, CT: Floating World Editions.
- Tedeschi, M. (2000). *Hapkido: Traditions, philosophy, technique*. Boston, MA: Weatherhill.
- Theeboom, M., & De Knop, P. (1999). Asian martial arts and approaches of instruction in physical education. *European Journal of Physical Education*, 4, 146-161.

United States Hapkido Federation (n.d.). Frequently asked questions (FAQ). Retrieved from <https://usHapkidofederation.wordpress.com/faq/>

Weiser, M., Kutz, I., Kutz, S. J., & Weiser, D. (1995). Psychotherapeutic aspects of the martial arts. *American Journal of Psychotherapy*, 49(1), 118-127.

Willey, P., Fife, G. P., & O'Sullivan, D. M. (2012). Competition injuries in taekwondo: a literature review and suggestions for prevention and surveillance. *British Journal of Sports Medicine*, 46, 485-491.

Wright, R. J. (2008). *Educational assessment: Tests and measurements in the age of accountability*. Los Angeles, CA: Sage Publications.

Wulf, G., & Lewthwaite, R. (2016). Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning. *Psychonomic Bulletin and Review*, 23(5), 1382-1414.

Wulf, G., & Prinz, W. (2001). Directing attention to movement effects enhances learning: A review. *Psychonomic Bulletin and Review*, 8(4), 648-660.

Zetaruk, M. N., Violan, M. A., Zurakowski, D., & Micheli, L. J. (2005). Injuries in martial arts: A comparison of five styles. *British Journal of Sports Medicine*, 39, 29-33.

Zivin G, Hassan N. R., DePaula, G. F., Monti, D. A., Harlan C, Hossain, K. D., & Patterson, K. (2001). An effective approach to violence prevention: Traditional martial arts in middle school. *Adolescence*, 36, 443-459.

### Tables and Figures

	Pre-test Median	Pre-test Average	Pre-test <i>SD</i>	Post-test Median	Post-test Average	Post-test <i>SD</i>
Hapkido Knowledge	2.0	1.58	0.65	3.0	3.28	0.81
Martial Arts Interest	4.0	3.83	0.91	4.0	4.22	0.80
Hapkido Interest	4.0	3.86	0.96	4.0	4.25	0.81
Athletic Ability	3.0	3.14	0.93	3.0	3.50	1.03
Fitness Level	2.0	2.81	1.09	3.0	3.25	1.08
Self-Defense Capability	3.0	2.78	0.96	3.0	3.61	0.84
Self-Defense Confidence	3.0	2.72	1.06	3.0	3.58	1.02
Interest in Continuing Study	3.0	3.31	1.01	4.0	4.19	1.04
Nervous for Testing	N/A	N/A	N/A	2.0	2.56	1.23

Table 1. Summary of student self-perceptions

Category	Median	Average	<i>SD</i>
Instructor Enthusiasm	5.0	4.81	0.71
Instructor Preparation	5.0	4.75	0.73
Positive Attitude	5.0	4.86	0.68
Used Mainly Verbal Instruction	3.0	3.25	1.40
Used Mainly Physical Demonstrations	5.0	4.47	0.84
Incorporated Mental Skills	4.0	4.20	0.76
Technical Skills Have Improved	5.0	4.50	0.61
Feedback was Frequent	5.0	4.53	0.65
Feedback was after Good Trials	4.0	3.81	1.01
Feedback was after Poor Trials	4.0	3.92	0.97
Blocked Practice was Utilized	5.0	4.39	0.93

Table 2. Summary of student perceptions of instructional methods

Technique	Average	SD	Technique	Average	SD
Reverse Punch	2.83	0.28	Side Breakfall	2.64	0.46
Moving Punch	2.78	0.36	Up Regrab	2.69	0.43
Palm Heel Strike	2.89	0.17	Down Regrab	2.78	0.36
Tiger Claw	2.67	0.44	Inside Regrab	2.56	0.49
Vertical Punch	2.78	0.36	Outside Regrab	2.67	0.44
Inside Block	2.69	0.42	Cross-Step and Turn Regrab	2.72	0.41
Outside Block	2.78	0.36	Any Joint Lock	2.56	0.49
Low Inside Block	2.83	0.28	Any Throw	2.44	0.56
Low Outside Block	2.86	0.24	Punch Defense 1	2.81	0.32
High Block	2.81	0.32	Punch Defense 2	2.75	0.38
Knee Kick	2.78	0.36	Punch Defense 3	2.81	0.32
Front Kick	2.81	0.32	Rear Attack – Arms Pinned	2.83	0.28
Half Moon Kick	2.56	0.60	Rear Attack – Arms Free	2.75	0.38
Side Kick	2.39	0.66	Rear Attack – Arm Choke	2.86	0.24
Back Breakfall	3.00	0.00	Front Attack – Hand Choke	2.65	0.46

Table 3. Summary of techniques and testing performance