

Rowan University

## Rowan Digital Works

---

Theses and Dissertations

---

5-5-1999

### Tae Kwon Do achievement and locus of control

Michael Sansone  
*Rowan University*

Follow this and additional works at: <https://rdw.rowan.edu/etd>



Part of the [Educational Psychology Commons](#)

---

#### Recommended Citation

Sansone, Michael, "Tae Kwon Do achievement and locus of control" (1999). *Theses and Dissertations*. 1880.

<https://rdw.rowan.edu/etd/1880>

This Thesis is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact [graduateresearch@rowan.edu](mailto:graduateresearch@rowan.edu).

# **Tae Kwon Do Achievement and Locus of Control**

by  
Michael Sansone

A Thesis

Submitted in partial fulfillment of the requirements of the  
Master of Arts Degree  
of  
The Graduate School  
at  
Rowan University

May 4, 1999

Approved by

Professor

Date Approved 5/5/99  
Professor

## ABSTRACT

Michael Sansone

Tae Kwon Do Achievement and Locus of Control

1999

Dr. Klanderman, School Psychology

The purpose of this study is to show that children who reach high ranks in Tae Kwon Do taught in a traditional manor will have a greater propensity towards an internal locus of control. The psychological legacy of Tae Kwon Do is in tune with many aspects of Rotter's Locus of control theory. In the words of the president of the Pan American Martial Arts Union, Chang K. Kwak "Through the martial arts we learn control and that control can be applied to all areas of life. Success is not measured in a set of short term goals... Learning is a continual process."

This study compared beginning and advanced Tae Kwon Do students. Students were randomly tested during a two week period using the Nowicki-Strickland Locus of Control Scale. Using a T-Test, significant findings were found. Advanced students had a greater propensity towards an internal locus of control. The findings support the hypothesis that Tae Kwon Do training taught in a traditional manor increases characteristics consistent with an internal locus of control.

## ABSTRACT

Michael Sansone

Tae Kwon Do Achievement and Locus of Control

1999

Dr. Klanderman, School Psychology

This study looked at the relationship between Tae Kwon Do achievement and locus of control. Students taught in traditional Tae Kwon Do were randomly tested using the Nowicki-Strickland Locus of Control Scale. Using a T-Test, advanced students were compared to beginning students. Significant differences in locus of control were found between advanced and beginning students. The findings support of the hypothesis that Tae Kwon Do training leads to a greater propensity towards an internal locus of control.

## **Acknowledgments**

I would like to thank Master Chang K. Kwak for his unfailing support of this project. Without him, this thesis would not have been possible. Thank you for making this idea a reality. Your dedication to the study of Tae Kwon Do is extraordinary. I would also like to express my gratitude to the rest of the instructors at Kwak's Tae Kwon Do for their support through the entire testing phase of this study.

I would like to thank Karen Schreiber for her enduring encouragement throughout the last year of this project. I would also like to thank Winston Matthews for his motivation and insight. Finally I would like to thank my family Kristen, Marian, and Michael for their love and support.

## Table of Contents

<u>Chapter</u>	<u>Page</u>
1	Introduction.....1
	Need.....1
	Purpose.....2
	Theory.....3
2.	Review of Literature.....6
	Review of Locus of Control.....7
	Review of Tae Kwon Do.....22
3.	Design of Study.....37
	Sample.....37
	Measurment Tool.....37
	Design.....38
	Hypothesis.....40
4.	Analysis of Results.....42
5.	Summary and Conclusions.....48
	Summary.....48
	Conclusion.....51
	Discussion.....52
	Implications for Future Research.....53
	Bibliography.....54
	Appendix I.....61

# **Chapter 1**

## **Introduction**

Students who do not succeed in school often will develop poor motivation. If the educational goals are too difficult, then why should one study? When consequences are not contingent upon effort, motivation is sure to falter. There is a clear need in many students to better understand how to improve motivation. This study does not attempt to explain when motivational habits in a child decreased. It does not matter if the child always was poorly motivated, or if motivation problems developed through negative experiences at school. The problem must be looked at in the here and now. While educators have made strides in how to motivate their students, sometimes more may be needed.

Today many parents attempt to find extra curricular activities for their sons and daughters in the hopes that there are lessons to be learned through physical activities that will influence all aspects of life. Not only are the benefits of being physically fit to be gained, but a mental aspect as well to gain a greater sense of well being, and self esteem. Martial arts have become an increasingly popular choice among parents. While the cost of these programs may be considerable, parents hope the lessons gained will be worth the price. This study will explore the locus of control construct, and search for direct correlation's between martial arts achievement and an internal locus of control.

## **Purpose**

In a western society, an internal locus of control is advantageous for academic success. A student who believes they control few aspects of their life will often find situations to appear overwhelming. There has been much literature published on various approaches to increasing students disposition from external to internal. Much of the literature is of great value to educators, and has been incorporated into well structured lesson plans. However the lessons learned outside the classroom can have as powerful effect as what is learned inside the classroom. Focusing on a students motivational development may be one of the most affective methods to increase perceived ability level. By learning that the environment in which one presides in is not fixed, but rather can be molded by effort, students can learn lessons that will benefit them for a lifetime

The purpose of this study is to show that children who reach high ranks within martial arts taught in a traditional manor will have a higher occurrence of an internal locus of control. Martial arts is unique from other sports in its' clear breakdown of ability level, discipline requirement, and parallels to a psychological legacy. Examples include relaxing, control, balance, and proper breathing techniques, and self confidence. In this study information from a tae-kwon-do studio will be used to show the effects of long term training of children compared to short term training. A secondary purpose is to provide a solid framework of the locus of control construct.

## **Hypothesis**

Tae Kwon Do training taught in a traditional manor that promotes a wholistic approach to the art (see definitions) will lead to an internal locus of control. While the lessons learned are a value to all, only those students who continue to practice for many



years will show a greater movement towards an internal locus of control. Students who have attained high rankings will be more internal than students who are a low rank.

### **Theory**

According to Julian B. Rotter's Social Learning Theory, an individual's motivation depends on the individual's own perception of ability. (Rotter, 1966) Rotter referred to an individual's accepted beliefs concerning the contingency of reinforcement as the locus of control. (Rotter, 1966, 1975) Locus of control is broken down into internal and external. External locus of control is associated with the perception of events whether positively or negatively, as being unrelated to one's own actions and beyond one's own control. Luck, fate, chance, and bias are all examples of the perceptions of outcomes that an individual with an external locus of control will have. An internal locus of control is when one believes outcomes whether positive or negative are directly contingent on their behaviors. Examples of internal locus of control are work ethic and ability level.

What makes Rotter's Social Learning Theory unique is that rather than focusing on individuals' expectations for a reward, Rotter explores the beliefs of why one received or did not receive a reward. The cause of the reinforcement is perceived as having equal importance as the reinforcement itself. Thus if one works hard and receives an A on a paper, this may be highly reinforcing, but if everyone received an A, the value of the reward will be lessened. This is because the cause of the A was based on other causes (easy test/grading), rather than hard work.

When a student enters a new situation, academic, or social, they enter that situation in light of past experiences. Past experiences weave into generalized belief systems. This system is the foundation for how students perceive themselves in their environment. For example a student who has had positive experiences in social situations

in the past, will believe that the effort they invest in the novel experience will be rewarded. A student who has had negative experiences in the classroom who has worked hard may believe that they will fail because hard work does not pay off. This is an example of a student with an external locus of control. If this student now receives a high grade, he may attribute it to luck or to an easy test.

Students often begin developing problems with motivation around third grade. Once a negative belief system is in place, changing is not an easy process (Schmitz & Skinner, 1993). This is not to say it cannot be done, rather it is a process that will take time and effort. A student will need to relearn how to perceive themselves in their environment.

### **Definitions**

-Traditional style will be defined as Tae Kwon Do teaching in which traditional aspects will be taught. Traditional aspects include form emphasis on forms, perfection of movements, breathing practice, meditation, and sparring. Schools that teach in a traditional manner will follow a strict philosophy which is often neglected in many martial arts studios. Philosophical aspects of Tae Kwon Do are an integral part of the learning process. Philosophical aspects of Tae Kwon Do will be discussed in detail in chapter two.

-Red/Black belt pertains to students who have achieved a high ranking in Tae Kwon Do. Most participants at this level have practiced for about four years or more.

-White, Yellow, & Green belt pertains to students who are new to martial arts. These students have participated in Tae Kwon Do for less than one year.

-Forms (Kata) represent patterns of movements that reflect the inherent principles and techniques of the martial art. These movements express the philosophical and ethical

basis of Tae Kwon Do. Successful forms encompass concentration, discipline, breathing, power, and balance.

Students who are enrolled in Kwak's Tae Kwon Do are characteristic of students who are enrolled in traditional martial arts classes. The benefits of martial arts in a middle class environment would be similar to that of children in a poor or wealthy environment. Teaching style may vary from instructor to instructor. One may assume that if taught in a proper fashion, the benefits gained will be similar. There can be two different means to an end, as long as the principles followed are the same.

### **Limitations**

Students who attend Kwak's Tae Kwon Do are predominantly European-American and Asian-American children from a middle class environment. Most of the students live within a seven mile radius. There are few minority students in this study, thus there is little distribution in the sample. The majority of students enrolled in Kwak's Tae Kwon Do are males, thus no differences between males and females can be reported in this study.

### **Overview**

The procedure of the study will be logical and direct. In chapter two, literature concerning previous studies of martial arts will be reviewed. Direct implications to motivation, psychological legacies, student achievement, self esteem, and anxiety level will be investigated. Historical and general research of the locus of control construct will also be explored.

In chapter three the design of the study will be explained. The sample of students from Kwak's Tae Kwon Do will be broken down into age, gender, and achieved rank. The assessment tool being the Nowicki-Strickland Locus of Control Scale will be

explained, and the design of the study will be thoroughly explored. The next part of section two will be null hypothesis with the directional alternates. An analysis of the data with appropriate assumptions will be made. The analysis will be followed by a discussion which will summarize the investigation.

This investigation will attempt to provide an well structured presentation of motivation and the locus of control construct. Tae Kwon Do will be explored concerning philosophical and psychological aspects, and well as a historical perspective, and current studies validating proposed benefits.

## Chapter 2

### The History and Influence of the Locus of Control Concept and it's Relationship to Psychological Legacy of Tae Kwon Do

The origin of the do concept goes back to Chinese sources. Translated this concept means “to follow a certain path, to pursue it assiduously and unswervingly, and thereby to lay special emphasis on the inherent maturing process” (Forster, 1986). Internalizing the process of the path to attain the goal, carries more importance than the goal in itself. Thus the ultimate reward is the experiences gathered in the pursuit of the path. This concept emphasizes inner attitudes that reflect the Zen tradition.

The attitudes and lessons learned in traditional Tae Kwon Do historically are based around the do concept. These principles inherently are based upon an internal self-exploration. An ultimate goal of Tae Kwon Do is to achieve a level of consciousness known as “present time”. Present time is achieved when one is completely in tune with himself and nature, to a degree in which all actions are reactions coordinated with the forces in life. This not only refers to physical actions, but mental aspects as well. Goals of martial arts include mastery orientation, intrinsic motivation, personal efficacy, and self confidence. This psychological legacy is in tune with many aspects of Rotter’s locus of control theory in that the characteristics of Tae Kwon Do reflect an internal locus of control.

## **Review of Locus of Control**

Julian B. Rotter's Social Learning Theory states that an individual's perception of control whether external or internal influences how that individual behaves. "Our basic hypothesis is that if a person perceives a reinforcement as contingent upon his behavior, then the occurrence of either a positive or a negative reinforcement will strengthen or weaken the potential for that behavior to recur in the same or similar situation. If he sees the reinforcement as being outside his control or not contingent, that is depending on chance, fate, powerful others, or unpredictable then the preceding behavior is less likely to be strengthened or weakened" (Rotter, 1966). In simplest terms Rotter's Social Learning Theory states that it is not the reward itself that increases the frequency of a behavior, rather it is the individual's beliefs about what caused the reward to happen. If one believes that rewards are not contingent on their behaviors or characteristics, rewards will not influence future behaviors. This theory is the heart of the locus of control construct.

The internal versus external control of reinforcement variable took the field of psychology by storm in 1966. Rotter stated "I was walking in the woods, lit my pipe and threw away the match and when I looked behind me there was a forest fire" (Weiner (1980). The locus of control concept introduced by Rotter (1966) has been one of the most widely explored concepts across many areas of psychology including clinical, occupational, developmental, personality and social psychology (Adrian & Howard 1993). The word Locus means "location" (Slavin, 1987). Thus locus of control simply means the location of control. There are two types of locus of control, internal and

external. One who possesses an internal locus of control has internalized beliefs that events or outcomes are contingent on one's own behaviors or personal characteristics. (Stipek, 1988) General characteristics of someone with an internal locus of control are effort and ability. An external locus of control refers to internalized beliefs that events or outcomes are outside of ones' control. Examples of external characteristics are luck, chance, fate, and biases, or powerful others. Below is the original locus-by-stability classification scheme for attribution.

	<b>Internal</b>	<b>External</b>
<b>Stable</b>	Ability	Task Difficulty
<b>Unstable</b>	Effort	Luck

Phares (1957) was the first to publish a report on task structuring of control from a social learning theory framework. In his experiment he tried to find out if intuitive differences between chance-learning and skill-learning would hold up in the laboratory. In his experiment, subjects were given a small gray chip. Subjects were then asked to match the fist chip in color with one of ten other chips (different shades of gray). Discrimination was virtually impossible. One group of subjects were told that they did an excellent job in matching the chip. The other group was told that the results were a matter of luck. Phares arbitrarily decided which trials would be "right" and which would be "wrong". Because the task difficulty was so difficult, the subjects believed what he said.

Phares continued this experiment by having subjects bet on the accuracy of their performance before each trial. Even though both groups received the same number and sequence of reinforcements, subjects in the skill direction changed expectancies much more frequently (betting more after success and less with failure) (Rotter, 1971). Phares concluded that “categorizing a situation as skill leads the subject to use the results of his past performance in formulating expectancies for future performances.” Phares had demonstrated that rewards alone are not the only motivating factor of behaviors, rather perceived control of the individual acts as a motivating force.

A follow up study to Phares was conducted by James & Rotter (1958). The task basically explored the same principle (a simple card guessing problem. However this time, skill Vs luck groups were explored against a partial Vs 100% reinforcement schedules in a experiment looking at extinction. The luck group produced expected finding in which the 100% reinforced group was much quicker to extinguish than the 50% reinforcement group. In the skill group the expected superiority of partial reinforcement (50%) did not pertain. Rather the results were similar to the 100% reinforcement group. Rotter explained these differences were due to the differing perceptions of the two groups. Extinction was rapid in the luck group because 100% to 0% reinforcement was seen as an experimenter manipulation. The luck group with the 50% reinforcement schedule had a slower perception that the situation had changed. Under the skill groups, members attributed their lack of reinforcement as being their own fault, rather than a change in task. Thus they took much longer to extinguish the behaviors. Thus in the skill groups, the 100% reinforcement and the 50% reinforcement were similar on extinction



trials because of the way they perceived the task. This demonstrates the importance of internal or external control.

Using the Internal-External Control Scale to judge locus of control, Odell (1959) suggested that subjects who were found to be high in externally had greater tendencies to conform (conformity was judged using the Barron's Independence Judgment Scale (1953)). This research was validated by a study in which subjects were asked to make bets concerning their accuracy in a novel situation (Crowne, and Liverant, 1963). Subjects who were judged high in externally were found to conform significantly more in a group setting than subjects who were found to be low in externally. Low external subjects bet approximately the same amount when they made bets within a group and by themselves. High external subjects bet significantly more when in a conformity (group) situation than by themselves. Thus subjects high in externality tended to conform to a more to group norms than subjects who were internal.

Liverant and Scodel (1960) hypothesized that subjects high in externally (external locus of control) would believe that in a chance situation they could not exert any control, while subjects who were low in externally (reflecting an internal locus of control) would believe they could exert a small amount of control over a situation. The subjects in the experiment were to gamble on dice throwing for thirty trials. The betting amount had to be selected as well as choosing different alternatives with knowledge of probabilities. The results found the low externals (internal locus of control) choose bets that were of an intermediate-probability, and less bets of a low-probability. Low externals also selected fewer bets of extreme high or low probabilities. In this gambling situation subjects who

are high in externally behave different than subjects who were low in externally. Low externally was correlated with self-regulation and a higher regard to probabilities.

Julian Rotter along with Ray Muly (1965) tested his hypothesis that internals and externals differ in the value placed on the same reward depending on whether the reward was believed to be based on chance or skill. To test this hypothesis, 61 females and 59 males were assigned to one of two groups. Group one was the "chance group", group two was the "skill group". Both groups were assigned to a angle matching test. The chance group was told that previous results indicated that success would be based on chance. The skill group was told that some individuals have a "special skill" for this type of task. Both groups took the I-E Control Scale to determine if they were externals or internals. Individuals classified as internals tended to take longer to decide in a matching task when the task was said to be skill controlled than chance control. The opposite effect was found with the externals. Externals tended to take longer to decide the correct match when it was defined as chance rather than skill. These results support the construct validity of Rotter's Social Learning Theory.

Studies have found that certain cognitive activities have been associated with an internal locus of control rather than an external locus of control. Studies by Seeman and Evans (1962) and Seeman(1963) suggest that subjects with an internal orientation tend to learn faster. This many happen because subjects with an internal locus of control believe they can control and thus manipulate the environment they preside in. These subjects are constantly gathering information, and reorganizing their environment to promote the most affect ways of promoting themselves within the environment.

In a similar study, (Leftcourt et al, 1973) supported previous studies that suggest that individuals who are internally motivated learn with greater ease. Consistent with previous results, this study suggested that internally motivated individuals would be more able and quicker to change the environment around them. Internals were also less likely to be conned, because they were more aware of their environment and the situation at hand. This notion that internals would perceive new environmental situations with greater ease further supports the findings that internally motivated individuals learn at a more rapid pace. Leftcourt explained, "Internals have been found to be more perceptive, and ready to learn about their surroundings. They are inquisitive; they are more curious and efficient processors of information than externals." (Leftcourt, 1982, p.80)

There is strong evidence in support of the correlation between locus of control and environment (Ladwig, 1965; Owens, 1969; Zytoskee Strickland & Watson, 1969). Lower class African Americans have been found to be more external than whites (1961) Battle and Rotter (1963) found that lower class African American children were significantly more external than lower class whites or middle class African Americans and whites. Socio-economic status alone is a strong predictor of locus of control. Studies have revealed that children from low socioeconomic levels have higher external scores than children from higher social class levels (Battle & Rotter, 1963; Crandall, Katkowsky & Crandall, 1965).

Many social scientists believe that the poor have feelings of powerlessness in their environment (Chilean, 1966; Ireland, 1968). Leftcourt (1966, p. 212) stated "In all of the reported ethnic studies, groups whose social position is one of minimal power

either by class or race tend to score higher in the external control direction...perhaps the apathy and what is often described as lower class lack of motivation to achieve may be explained as a result of the disbelief that effort pays off.”

The concept of learned helplessness was introduced by Seligman and Maier (1967). In their experiment a dog was placed in a situation where it received a shock from the floor. The dogs at first would jump into the air to avoid the shock. After successive trials, the dogs learned that they could not avoid the shock. Next the experimenters put the dog in a situation where it would be shocked, but it would be able to escape from the painful experience. Because the dog now believed it had no control in the situation, it would not avoid the shock. It had learned to become helpless.

Learned helplessness can readily be applied to academic situations. Students who experience repeated failure may in time believe that failure cannot be controlled. Usually students will attribute their failure to a low ability level. Because they believe they do not have the ability to succeed in the classroom, they will exert little effort on their tasks. Weiner (1994) listed common teacher beliefs concerning students who have a low-ability attribution.

- Does not pay attention to teacher’s instructions
- Does not ask for help, even when help is needed
- Does not show pride in success
- Is easily discouraged
- Appears bored and uninterested

Some of the most prominent research on learned helplessness in achievement settings was done by Dweck and Reppucci (1973). In their study, children were given questionnaires investigating the relationship between a child's beliefs in ability, effort, task difficulty, and luck, to the child's success or failure. Children's who scored high in ability factors such as effort tended to continue working on problems even after failure. Children believed failure was due to a lack of ability or task difficulty rather than a lack of effort tended to give up more readily. These children develop learned helplessness, they expect failure. Because they feel that success is outside of their control, a self-fulfilling prophecy often causes them to give up on tasks that are well within their ability level.

Learned helplessness is common among low-achieving students, however it can also be found in high achieving students as well. Many times high-achieving students feel that they should grasp novel concepts readily (Cramer & Oshimar, 1992). High-ability students may have a great deal of pressure from parents and themselves to succeed in school. While success can act as a blanket for protection, when faced with a novel situation that is confusing, these students may feel that they cannot meet their expectations. Anything below their expectations may be perceived as failure. Or a high achiever who is put into a gifted class may now feel they do not have the same ability as their classmates. Feelings of helplessness can emerge.

Since there is mounting evidence that an internal locus of control can be advantageous, researchers have investigated the possibility that by manipulating the environment subjects would respond more similar to those with an internal locus of control. Lefcourt (1967) conducted an experiment in which externally motivated

individuals performed similar in achievement situations to that of internally motivated individuals. This was accomplished by directly manipulating the thought processes of subjects with an external locus of control in an achievement situation. Leftcourt accomplished this by making explicit references to the meaning of the tasks in which the subjects were engaged. The subjects were constantly reminded of the significance of the task at hand, and the reinforcement value. The results of this experiment found that subjects who were externally motivated performed more similar to subjects with an internal locus of control. The results of this study demonstrate that locus of control construct is based upon thought processes and expectancies that have become generalized over time. With continual reminders of the purpose of the task and the reinforcement value, subjects with an external locus of control can perform similar to internally motivated subjects.

Dwek and Reppucci (1973) conducted an experiment that showed subjects can be made to feel they have no control in situations, even when they do, thus furthering the support that locus of control can be changed (at least in task specific problems) In this experiment 40 fifth grade children were given the task of replicating block designs. There were two groups, one was a failure group (impossible task) and the other was a success group (easy block designs). Many children failed to complete problems administered by the failure experimenter when her problems became soluble. These children had previously been in the success group and had solved problems of the same level. After successive trials in the failure group, on task of equal difficulty to those they had completed before, they now failed. The subjects who showed external motivations for

failure (less responsibly for the outcomes of their actions) had the largest performance decrements.

In an experimental situation, experiments appear to be able to temporarily influence internally or externally of individuals. Research has investigated the idea that the locus of control is not fixed, rather it is susceptible to change. This change can be in an internal or external direction.

MacArthur (1970) further explored the idea that the locus of control is not a fixed entity. In his experiment, Yale subjects were administered a locus of control test. The control group was administered the test the day before the lottery for draft eligibility. The second group was administered the test the day after the lottery. Students who were affected by the lottery from the second group scored in a more external direction than the control subjects who were tested the day before the lottery. Subjects' level of externality was directly affected by the test.

In another experiment Harvey (1971) attempted to determine if locus of control is influenced by environmental situation. In his study he found that individuals who recently became employed had a higher occurrence of an external locus of control. The longer individuals worked in a particular job influenced locus of control in an internal direction. Related to this finding Ronald Smith (1970) examined the locus of control in individuals who were going through emotional crisis. Results found that during crisis, individuals display an external locus of control, however this externality lessened as the crisis moved towards resolution. These two studies show that locus of control can change due to environmental situation.

Children who are raised in inner cities often find themselves in an environment that is confusing and bewildering. In this type of situation it may be difficult for children to see the relationship between how they behave and the reinforcements they receive for their behavior. In conjunction with past research (Smith, 1970; McArthur 1970; Dwek & Reppucci, 1973), locus of control can be affected by environment. Individuals may find themselves unable to do tasks that are within their ability level. Nowicki and Barnes (1973) conducted an experiment on a total of 261 (broken down into eight groups one group per week) inner-city teenagers in a structured camp experience on locus of control orientation. Using the Nowicki -Strickland scale as an assessment tool, subjects were tested before they went to camp, and after a full week of camp. Results indicated that in seven out of eight groups experienced an increase towards an internal locus of control. The study that did not show any increases, was during the week that the group had to share the camp site with other groups, thus the structure of the camp was decreased. The results support the notion that locus of control is based on environmental factors and can be changed. It should be noted that change occurred in students for a one week period. It can be hypothesized that greater change will occur if children are put into a structured environment over a number of years.

Herbert Lefcourt (1976) suggested that age is directly related to locus of control. He believed that as a child grows and matures, he will become more competent in manipulating the environment. As the child's confidence and competence improves, he will move towards an internal locus of control. Unfortunately this "direct correlation" between age and internal locus of control has been clouded with mixed studies.



Crandall (et. al 1965) looked at the locus of control construct in children between third through twelfth grade. Crandall developed the IAR (Intellectual Achievement Responsibilities). The IAR was devised to measure the degree to which the individual feels he has control over his environment as opposed to being controlled by outside forces. The IAR differed from other scales in that it sought to measure the child's belief in internal versus external control in intellectual situations exclusively. Using the IAR, he was unable to find a significant correlation between age and internal locus of control. Although the change was not significant  $P > .05$ , there were tendencies found for older students to be more internal. He did find some significant findings, however they were not expected. For boys, between the grades of tenth and twelfth, they showed a decrease in acceptance of responsibility for success. Surprisingly their locus of control more towards a more external direction. For girls as this age, their locus of control remained stable. They did show a significant change towards more internal between the ages of third and twelfth.

Sherman (1984) attempted to measure the same principles and came across different results. To assess locus of control he used the Nowicki-Strickland Scale to do a cross-sectional and longitudinal analysis on elementary school children. His findings contradict those of Crandall, stating that a child's locus of control is significantly affected by age and increases from one age group to the next, and from year to year. Older children are significantly more internally motivated than younger children.

Much research has pertained to the locus of control construct and academic success. The majority of the research suggests that students who are internal will

perform better in an academic setting. Rotter (1966) suggested that logically students with an internal disposition would show more overt effort in striving to attain academic success than their external counterparts who believed that they hold little control over the academic outcomes. There have been many studies that suggest that internals spend more time and effort in their academic pursuits, and have higher scores in achievement tests. (Chance, 1965; Crandall, Katkovsky, & Preston, 1962).

Nowicki and Strickland (1971) found a significant relationship between a student's locus of control and academic success. Students who were found to be internal (using the Nowicki -Strickland Locus of Control Scale) had greater academic achievement than students who were found to be external. These findings were concurrent with previous findings conducted by Crandall (1965) in which IAR scores were correlated with the Iowa tests, and report cards. The sample used was of boys and girls from third to fifth grade. Students who were internally driven scored significantly higher in reading, math, and language.

Margaret Clifford and Anne Cleary (1972) examined the relationship between a measure of internal disposition and performance on spelling, vocabulary, and math in which the subjects determined the levels of difficulty at which they worked. To judge students as internal or external, the AAA questionnaire was used. The AAA attempts to discriminate between self-accountability and no accountability. The study was composed of 99 fourth, fifth, and sixth grade students. At each grade level internal disposition was positively correlated with academic performance. Further supporting the notion that academic success is strongly correlated with locus of control.

The primary goal of education is to teach children the academic skills they will need to go on to further education, and to eventually go out into the work force. Students who lack the necessary social skills will not be able to successfully proceed in life. Clearly if not the primary goal of school, social skills training must be the second goal. Research has shown that students who have an external locus of control will have more trouble in school. Problems arise from students not relating well with teachers and their peers.

Hollender (1971) reported that males who were external would be more likely to distance themselves than males who were internal. Martin (1972) found that males who were external would be significantly more likely to be viewed by their teachers as behavioral problems than their internal counterparts. Hountras and Scharfe (1970) characterized externally oriented individuals as having a stronger predisposition to being inhibited, wary, resentful, self-centered, confused, stereotyped in thinking, and lacking self-direction and self-discipline. Wang and Stills (1976) found that students who are given more control in the management of their classroom assignments move towards an internal locus of control. Interviews with the children revealed that because the teachers allowed them to participate in their classroom management, they felt empowered in their environment which moved their perception to towards the internal direction.

The locus of control concept refers to generalized beliefs of the way individuals perceive their chance of success or failure in an environment. Internally motivated individuals believe they have high ability, and that even in the face of failure, increased effort may cause success. Externally motivated individuals believe they have less control

in their environment, and that factors of luck or powerful others play a large role in the probability of success. Research has shown that in developed industrial nations, having an internal locus of control is advantageous towards many aspects of life including conformity, control in differing environments, social skills, and learning skills (not to be confused with general intelligence). Further research has shown that there is a strong environmental correlation's between locus of control and environment. Not only is the locus of control concept strongly influenced by environment, but by manipulating the environments internally motivated individuals can display external characteristics and vice-versa.

Many studies have attempted to manipulate the environment to produce the affects of an internal locus of control. The majority of the studies attempted to influence school age children towards self-responsibility, and believing they can control their environment. Many of these studies have produced significant effects in a short period of time. Unfortunately most of the research has looked at short term programs which are possibly creating short term affects. Because the locus of control concept refers to generalized beliefs, there should be strong skepticism that providing an environment conducive to an internal locus of control for a number of weeks will create a long term changes in generalized expectancies. However the previous research lends strong optimism that participation in a program conducive to self-empowerment and accepting responsibility can promote positive permeate change in one's locus of control.

## **Review of Tae Kwon Do**

Eastern though is becoming more prevalent in the western society. Martial arts studios have almost doubled in the last five years (Ferguson, 1995). Children and adults engage in martial arts in the hopes of gaining a spiritual and physiological well being. There will be a brief history of Tae Kwon Do in order to show where the art came from, and how it has been influenced throughout time. The next section will look at the documented benefits both psychological and physical that result from participation in martial arts. The concept of locus of control will be explored with its ability to change from external to internal.

Tae Kwon Do is translated from Korean, tae meaning “to kick or “to strike with the foot, Kwon means “fist” or to strike with the hand, and Do means “discipline” or “art”. Together this translation is “the art of kicking and punching” (Park, 1988). Tae Kwon Do is predominately a “linear art” which means people are taught to fight on a line. Linear movements are more characteristic of Japanese art forms. However Tae Kwon Do also incorporates some circular movements which are more characteristic of the Chinese arts. Tae Kwon Do is most know for its dynamic kicking techniques. Roughly eighty percent of sparring techniques are kicking, making Tae Kwon Do one of the most effective arts for kicking.

The history of Tae Kwon Do is as old as it is rich. The earliest records of Tae Kwon Do date back to about 50 B. C. During this time Korea was divided into three kingdoms: Silla, Koguryo, and Baekche. Evidence of the practice of *Taek Kyon* (the earliest know form of Tae Kwon Do) has been found in the paintings of a tomb from the

Koguryo dynasty. Pictures depicted classic stances and techniques used in modern day Tae Kwon Do.

Silla the smallest and least civilized kingdom in Korea was constantly under attack from pirates. The king of Koguryo sent a force of 50,000 soldiers to aid in their defense. It is believed at this time that select Sillan warriors were taught the art of Taek Kyon. In time these warriors formed the Hwarang-do which translates “the way of flowering manhood”. The Hwarang-do educated the nobility in the art of Taek Kyon, history, Confucian philosophy, ethics, Buddhist morality, riding, poetry, dance, archery, swords, and military tactics. The guiding principles in the Hwarang-do are often spoken at the end of every Tae Kwon Do class taught today. The codes of human conduct are: Be loyal to your country, be obedient to your parents, be trustworthy to your friends, never retreat in battle, never make an unjust kill. The Hwarang traveled throughout the Korea and spread their knowledge from about A.D. 668 to A.D. 935.

The role of Taek Kyon was to change many times. Between the years of 1147 and 1170 under the reign of King Uijong, Taek Kyon’s name was changed to Subak. Subak was to be strictly a fighting art. In the years to come during the Yi dynasty (1397 to 1907) military activity was de-emphasized, thus the study of Subak was also decreased. Much of the survival of the art was due to individual families handing down the art from generation to generation, but this was soon to change.

In 1909 Japan invaded Korea. As part of the Japanese occupation of Korea, the practice of Subak was banned. It was this ban that caused a resurgence in the art. During the next 36 years, patriots practiced and taught the art of Subak/Taek Kyon underground.

In 1945 Korea was liberated from the Japanese. The Korean martial art was beginning to take root.

In 1945 the first *kwon* (school) opened to teach the Korean martial art. The dojang was named Chung Do Kwan, followed by the opening of a second dojang called Moo Duk Kwon. These names are often seen in the titles of Tae Kwon Do studios. In the following years many kwans' opened. Taek Kwon gained a strong presence in the Korean Military, and upon president Syngman Rhee's viewing of the skills these men achieved he adapted Taek Kwon as a regular part of military training.

Following the end of the Korean War on April 11, 1955 a meeting was held to unify the Kwans under a common name and methodology. With some dissension, the name Tae Kwon Do was chosen. Tae Kwon Do was similar to the name used for hundreds of years, it translates "the art of kicking and punching".

On May 28, 1973 the World Tae Kwon Do Federation (WTF) was formed. The WTF provides exacting details of the art from lessons to be learned for each belt level, to guiding principles and methodology. In the 1973 Olympic games Tae Kwon Do was designated an official demonstration sport. Today Tae Kwon Do is practiced by over 20 million practitioners.

It is clear that Tae Kwon Do has an impressive heritage, and is gaining tremendously in popularity. Parents are willing to pay over a hundred dollars a month to ensure their children gain the benefits of Tae Kwon Do. College students and adults are also joining studios in great numbers to improve their health and psychological well being. As stated by seventh degree black belt martial arts master and president of the Pan

American Martial Arts Union Chang K. Kwak (1980) “I believe the most important aspect of Tae Kwon Do is that everyone should strive for happiness and harmony. Through the martial arts we learn control and that control can be applied to all areas of life. Control means discipline.... the most important strength comes not from the body, but from the mind and heart.”

When listening to the values taught by traditional martial arts master, it would seem that martial arts can have a broad impact on society. When asked what parents thought the most prevalent problem in American Families was they responded that next to the availability of drugs, the problem in American Families is a lack of discipline and respect. Martial arts can appear to be the silver bullet. (Forbes, 1995). However this silver bullet unlike many other approaches is thoroughly enjoyed by children of all ages.

Before delving into numerous case studies that show the benefits of martial arts participation, it should be clear that not all schools teach with the same methodology that has been discussed so far. The majority of research in this paper including the experiment will look at schools that teach in a *traditional* manor. Traditional martial arts are taught to promote a mastery orientation. This statement can be accepted as truth, because in martial arts, perfection of movement (mastery of goals) is a continual process, this process is never fully achieved, but always strived for. A clear example of mastery orientation is the use of Kata or forms in martial arts (see definitions).

In a traditional studio, forms are a major part of training. New forms or Kata's are learned throughout the graduated levels of Tae Kwon Do. In form practice, students attempt to perfect balance, movement, and breathing. Kata incorporate “hard and soft”



motions that clearly depict the beauty and strength of the martial art. These movements express the philosophical and ethical basis of Tae Kwon Do. Kata practice is often neglected in studios that teach only for tournaments or fighting. When asked what the biggest obstacle facing the growth of Tae Kwon Do today is, Master Kim (co-founder the Pan American Martial Arts Union) stated that “Negligence is the humanitarian and spiritual aspect of the art. I think this is the result of overemphasis on physical discipline and is caused by short-sighted greed for winning trophies. More emphasis on basic forms and basic movements, including spiritual discipline, is necessary.”

Clearly one of the greatest strengths of traditional Tae Kwon Do is the mastery orientation it teaches. Psychological and psychological strengths come from the discipline and control found in the attempt to perfect movement. Dweck and colleagues (Dweck & Leggett, 1988) (Elliot & Dweck 1988 ) have found that mastery orientation refers to a concern with learning goals, improving skills, and gaining understanding. From this perspective hard work is seen as necessary for success. Failure is understood as useful feedback of a learning strategy that has been employed. Overall ability is not fixed, success can be achieved through internal measures such as changing learning strategies and working harder.

Other studios do not teach martial arts in a holistic approach. Forms are neglected, and success is gauged by winning competitions. Ego orientation refers to an orientation for success at competition, establishing superiority over others, and gaining praise. Ego oriented people see ability as fixed and innate. For this reason failure is attributed to lack of ability, and is not controllable. An ego orientation may cause

individuals to confuse the nature and meaning of achievement situations (Dweck & Leggett, 1988). Findings in high school students show that mastery oriented student believe that success requires interest and effort, ego oriented students believe success requires high ability.

Ames (1992) believed that children who adopt a mastery goal orientation are more likely to exhibit a positive motivational pattern. In contrast, ability oriented individuals are concerned with being judged as having better skills than others, or being able to succeed with little effort. According to the achievement goal theory, people who have learned in and adopted a mastery orientation will show a higher level of intrinsic motivation, work harder during more challenging situations, emphasize the importance of effort in an achievement context, and persist in difficult tasks over time (Roberts & Treasure, 1992).

In sport settings, research has shown that when children are taught athletics (martial arts) in a mastery oriented program rather than a performance (goal) oriented program, children report significantly higher levels of enjoyment and exhibit better motor skills. Follow up in-depth interviews further indicated that children who are taught in a mastery oriented setting consistently and almost unanimously report feeling high levels of perceived competence and intrinsic motivation. These strong effects were not found in the performance oriented program. (Theeboom & Knop, 1995)

A study by Trulson (1986) is an example of how Tae Kwon Do may have the ability to influence psychological well being more so than other sports. This study shows that the inner strength and mastery orientation gained through Tae Kwon Do

training is based on a holistic approach. The kicking and punching are not what promotes change. Rather when these are the only aspects taught to children, there may be negative results.

Trulson (1986) used a sample of 34 high school students who were classified as juvenile delinquents by their scores on the Minnesota Multiphasic Personality Inventory (MMPI). The students were put into one of three groups, one was a traditional Tae Kwon Do club, one was a non traditional Tae Kwon Do club that did not emphasize spiritual aspects of the art, and the third was a control group. Subjects were given a before-and-after test of the Jackson Personality Inventory. After a six month session, the three groups differed significantly. The traditional Tae Kwon Do club had a lowered anxiety, increased self-esteem, lowered aggressiveness, increased social adroitness, and a increase in value orthodoxy. The two other groups did not exhibit these positive changes, rather the non-traditional Tae Kwon Do group demonstrated increased aggressiveness, increased levels of anxiety, an inability to get along with others, and a lack of responsibility.

Bandura (1986) stated that people's belief in their efficacy can be enhanced in four principal ways. The most effective vehicle for developing a strong feeling of efficacy is through mastery experience. Performance success leads to a sense of personal efficacy, failures undermine it. Because martial arts is not goal directed, but rather a continual process of mastery orientation, there is no "failure". Bandura went on to say that peoples beliefs that they posses certain capabilities is influenced by social persuasion. Positive social appraisals have their greatest impact when challenges are structure in

graduated steps that are likely to bring success. This statement is reflected in the mastery orientation of higher belt levels. Students go through many steps (ranks) on their way to a better understanding of the art. There is no set time expectancy to reach each goal. The individual will learn at their own level, and is expected to perform their best.

Bandura also stated that self-beliefs of efficacy can be altered by changing physiological states that are perceived as signs of strength and personal vulnerability. Concerning this statement, Tae Kwon Do provides individuals with decreased feelings of vulnerability and makes people physically stronger. Strong evidence supports this statement, there have been many studies that support the notion that feelings of vulnerability decrease with martial arts achievement. (Cohn, et al. 1978; Janoff-Bulman, et al., 1983; Smith, 1983; Madden 1990).

The pursuit of excellence in Tae Kwon Do is based on the individual gaining the strength and perseverance to become in complete control of mind and body. In excepting these principles, individuals must learn to control their emotional states. Controlling one's emotional states can be very difficult for children and adults alike. Western though contradicts the view that martial arts training can lead to better control over one's emotions. Concerning aspects such as hostility, aggression, and stress, there is strong evidence that the acquisition of an aggressive repertoire, even one directed toward self-defense, has the effect of increasing aggressive behavior (Bandura, 1973). There is also evidence that a non-retaliatory stance may attract violence (Lord & Nosanchuk, 1977). It would appear that there is a conflict between current psychological theories of aggression and conventional wisdom.

Bandura (1973 1976) believed that many aspect of aggressiveness training would lead to an increase aggressiveness:

- a. Training acts to provide an aggressive repertoire
- b. training may act to disinhibit aggressive actions
- c. training may change the ordering of responses to arousal with aggression becoming prevalent
- d. symbolic rehearsal may act to increase aggressive fantasy
- e. Combat experience may enhance both fighting skill and viciousness.

By his findings it would appear that Tae Kwon Do would lead to a lack of control over emotions, resulting in an increase in aggression. However Bandura (1973) also discussed acts which inhibit aggressiveness. Many of these aspects are found in martial arts such as negative view on aggression, and an emphasis on self-control and conflict avoidance.

Studies have consistently found that practicing in a traditional Tae Kwon Do studio can lead to a decrease in aggressive behaviors. Michael Glynn and Susan Berta (1991) found an inverse relationship between Tae Kwon Do ranking and aggression level of children between the ages of six and eleven years. The results found that aggressive tendencies were almost double for white belts (beginners) than black belts. Sixty-eight students (Boys and Girls) were measured for aggressive behaviors using the Aggressive Scale of the Revised Child Behavior Profile.

Rothpearl (1980) compared 152 subjects taught in traditional karate and 135 control subjects using the IPAT Anxiety Scale Questionnaire and the Buss-Durkee Hostility Inventory. There were significant negative correlation's of anxiety (-.22) and

hostility (-.29) with high karate proficiency (belt rank). Beginning students and students in the control group did not differ significantly. What separates this study from others is the finding that intermediate ranks of the martial art group exhibited a greater variety of hostile modes of expression than either the beginner or advanced groups (Rothperl 1980). This study shows that high proficiency in martial arts leads to a significant decrease in anxiety and hostility. However martial arts may not be a “quick fix”. This paper supports both cathartic and circular theories of aggression.

Many attributes that are consistent with psychological well being have been found in practitioners of Tae Kwon Do. In a study relating children’s personality to training time and belt rank in Tae Kwon Do, Margaret Kurian (1994) found that high belt rank was positively associated with increases enthusiastic optimism and self-reliance( $p > .05$ ). This study was composed of 72 boys attending two Tae Kwon Do studios in the Southwestern United States. The mean of this study was 9.8 years. This study looked at a cross section of belt rankings at the two studios and administered the 1973 Form A of the children’s personality questionnaire following a regular training session.

In a study that compared 52 superior Tae Kwon Do practitioners to 100 average Tae Kwon Do practitioners, the strongest findings were that the superior group excelled in self-confidence and achievement (Duthie et al., 1978). The superior group was composed of martial artists who are listed in the *Who’s Who in the Martial Arts*, also senior students and assistant instructors. The data collected was of a descriptive nature. Subjects were not randomly assigned. Data was collected through group procedures and use of mail questionnaire for some superior martial artists. The instrumentation used in this study

was the Adjective Checklist and the Martial Arts Questionnaire. The assessment instruments were given to both groups in one day.

In a similar type of experiment, 30 practitioners of Tae Kwon Do were divided into two groups one for participants of 0-1.4 years, and another for 1.5+ years. The results found that groups who had a longer training time in Tae Kwon Do scored significantly higher on independence and lower on Anxiety (Kurian & Caterino, 1993). The measurement tool used was the 16 personality Factor Questionnaire. Both differences of higher independence and lower anxiety are positively related to adaptation and functioning within the environment (Krug, 1981).

There are many benefits to be gained by exposure to Tae Kwon Do. Reasons for increased psychological well being range from lowered anxiety, to increased self-confidence and self-reliance, to internalized beliefs of a mastery orientation. One aspect of Tae Kwon Do that has not been researched to a great extent is the environment in which students train. Traditional Tae Kwon Do studios promote a friendly environment in which social support in the form of companionship and friendship are available.

Seppo Iso-Ahola and Chun Park (1996) investigated the role of social support and self determination in Tae Kwon Do. In a study of 252 TKD practitioners, physical and mental health were investigated using a large battery of assessment tools. The results indicated that life stress was positively related to mental and physical illness symptoms and negatively related to perceived health. Leisure companionship was statistically significant in that it moderated the effect of life stress on mental illness (depressive symptoms), whereas leisure friendship did not have a similar effect. The possible reason

for this outcome may best be summed up in the words of Robert Crandle (1979). Having companions or friends and doing things with them in leisure is one of the best predictors of psychological well-being.

Many students who have feelings of a lack of control of themselves and the world around them, as well as low self-esteem, insecurity, inferiority, and fearfulness, may present a facade of toughness (Kaplan & Saddock, 1981; Malmquist 1985; Saucier & Ambert, 1983). Because many of these children lack the necessary tools needed for success, the “facade” acts to protect them from their negative feelings. Unfortunately it is what also prevents them from learning the proper methods to promote change within themselves.

Participation in martial arts may provide a solid foundation to promote self-esteem and self-control, by breaking down the very facade (of toughness) that prevents change from occurring. Konsak and Boudreau (1984) found that male subjects who were well experienced in martial arts became less “tough”, more relaxed and more sensitive. Students who progress through the rankings had an increase in many personality traits that make them more secure in themselves, thus the need to put on a facade for others is diminished. In their studies, Konsak and Boudreau found that when looking at a non-clinical cross section of martial arts students based on the Cattell Sixteen Personality Factor questionnaire, advanced male students tended to be more intelligent, self-assured, self sufficient, venturesome, emotionally stable, forthright, imaginative, expedient, and relaxed than less advanced students. Similar attributes for advanced female practitioners included: higher intelligence, emotional stability, liveliness, assertiveness, more trusting,



imaginative, forthright, self-assured, and relaxed. The most significant differences were found in the students with the highest rank.

Tae Kwon Do is by far the most dominate martial art in the America. This Korean martial art has a long history drawing applications from Japan and China. Traditional Tae Kwon Do is more than a “sport” or learning how to defend one self. This mastery oriented martial art is geared towards a holistic concept that is unity of physical and mental elements. “Success in the martial arts is defined by continuing the study of martial arts. Success is not measured in a set of short term goals such as earning a certain belt level. Learning in this manner is a continual process throughout a lifetime” (Kwack, 1994).

Research has found significant correlation’s between achievement in traditional martial arts and positive aspects of personality such as mastery orientation, intrinsic motivation, perceived competencies, sociability, personal efficacy, self confidence, and decreases in aggression and anxiety. Research has also shown that non-traditional martial arts produces negative aspects of personality such as decreases in sociability, mastery orientation, and intrinsic motivation. Other negative attributes include increases in anxiety and aggression. When martial arts are taught in a non-traditional manor, the benefits disappear, and are replaced with negative attributes. While there were some discrepancies concerning the benefits of Tae Kwon Do for begging students, the results were clear that students who practiced for years and attained high levels consistently displayed more positive aspects of personality.

The psychological legacy and the principles learned in traditional Tae Kwon Do inherently reflect an internal locus of control. Many studies have found that locus of control is not set in stone, rather it can change based upon the environment. Although I have presented numerous studies that show how changes in the environment can cause changes towards an internal or external locus of control, the majority of the studies look at short term affects. If we are to believe that the locus of control concept is based upon generalized beliefs about the contingencies of reinforcements, then it would seem plausible that short term changes in environment cause short term changes in locus of control. By placing children in an environment conducive to an internal locus of control for long periods of time, it is possible that the findings will be more accurate of a true change towards an internal disposition.

## **Chapter 3**

### Design of The Study

#### **Sample**

The sample in the study consisted of 47 children from 7 to 17 years of age. The Average age for advanced students was 11.63 with a standard deviation of 2.34. The average age for beginning students was 10.32 with a standard deviation of 2.26. There were 37 boys and 10 girls. All members of the sample came from Kwak's Tae Kwon Do in Warren NJ. Warren is a middle to upper middle class town. Grade levels ranged from 2nd to high school with a mean if 4th grade. 41 members of the sample were Caucasian, and 6 were Asian. The head instructor for all students was Charles K. Kwak, a seventh degree grandmaster and president of the Pan American Martial Arts Union (an organization dedicated to the development of traditional martial arts).

#### **Measurement Tool**

The assessment instrument used was the Nowicki-Strickland Locus of Control Scale for Children (Nowicki & Strickland, 1973). The Nowicki-Strickland scale is the most widely used instrument to measure locus of control in children. The test is a paper and pencil measure consisting of forty questions in a forced yes/no format. This test was designed on the basis of Rotters internal-external control of reinforcement dimension. The test describes reinforcement situations across interpersonal and motivational areas such as

affiliation, achievement, and dependency. In other words the test measures the degree to which children believe that reinforcement is based on internal factors such as effort and ability, or external factors such as powerful others, luck, chance, or fate. Internal consistency rates for the scale has ranged from .63 for grades 3-5 to .81 for grade 12. Test-retest reliability has ranged from .63 for third grade to .71 for tenth grade.

### **Design**

The study looked at a cross section of martial arts students and Kwak's Tae Kwon Do. Because the study was descriptive, no interventions were made. Rather the goal is to compare how martial arts training has affected students. Students were broken down into two groups, beginners and advanced students. Beginners were classified by having a white, yellow, or green belt. Advanced students were classified by having a red or black belt. Beginning students had been enrolled in the studio from 1 month to one year. Advanced students had been enrolled in the studio at least four years.

During the course of two weeks, students were given the Nowicki-Strickland Locus of Control Scale for Children. The majority of testing was done on an individual basis with students. All testing was done by Michael Sansone who holds a bachelors degree in Psychology, and student of school psychology. Students were tested in a randomized order after they had finished a martial arts practice. During testing all students at or above the fourth grade level took the test by themselves with an examiner present to explain and answer any questions. Students who were below fourth grade were given the test orally. All students were told that the examiner was gathering information concerning attitudes and opinions of different aged martial art students. All

students were told that their answers were completely confidential, explanations of confidentiality were explained to the children.

Classes were taught or supervised under Charles Kwak. While many classes were offered during the week, on average each student attended two-three classes per week. Average class length was one hour and forty-five minutes. All classes start with a line up in belt rank, and bowing to the master. Each class consisted of about 15-twenty minutes of stretching. Followed by push-ups and sit-ups. Following the warm-up, most students practiced basic form (the first form learned in Tae Kwon Do (see definitions)) followed by more advanced forms. Practice next moved to punching and kicking drills. Students broke off into different levels and worked on their own material, Master Kwak would walk through, observe and help students. When students broke off into ability groups, usually one student of a higher rank would be assigned to teach that group. Thus all advanced students will have to teach during their training. However only a few adult black belt students are able to teach an entire class. Although the first half of practice generally follows the format above, the second half of practice changes. Considerable time is usually concentrated in one of a few areas such as forms, sparring techniques, or target kicking and punching drills. All classes end with a final practice of forms, followed by breathing/meditation exercises. Classes end with a line up, a brief discussion concerning the philosophy of Tae Kwon Do, and a final bows (One to the black belts, one to the senior student, and one to the instructor). Students are generally given the opportunity to continue working after the practice has ended. As general courtesy all students must bow before entering and leaving the studio.

## **Hypothesis**

$H_1$ =Students who have attained a high rank (red or black belt) in Tae Kwon Do taught in an traditional manor, will score higher towards an internal locus of control on the Nowicki-Strickland locus of control scale compared to students who are a low rank (white, yellow, or green belt).

$H_0$ =Students who have attained a high rank (red or black belt) in Tae Kwon Do taught in a traditional manor, will not score higher towards an internal locus of control on the Nowicki-Strickland locus of control scale compared to students who are a low rank (white, yellow, or green belt).

## **Analysis**

An independent T-Test was used to determine if the null-hypotheses was not be accepted or rejected. This model was used because two different groups were being compared (beginning students & advanced students). Although the two groups received instruction from the same school, this study is based on the duration of training, thus the groups are separate. Person correlation was also used to look at the relationship between age and internal locus of control for all the subjects.

## **Summary**

This study is very straightforward. A cross section of Kwak's Tae Kwon Do was used to compare students of different ability levels. Students were grouped according to belt level (beginning students and advance students). Both groups were given the Nowicki-Strickland Locus of Control Scale randomly over a three week period. Using an independent T-Test a comparison of test scores were made to allow for the rejection or

acceptance of the null hypothesis.

## Chapter 4

### Analysis and Results

The goal of this study was to determine if Tae Kwon Do training taught in a traditional manner would lead to an greater disposition to an internal locus of control. Advanced students were compared to beginning students. All students were randomly given the Nowicki-Strickland locus of control scale, and compared for internal locus of control. An Independent T-Test was used to compare the two groups. The following findings were understood:

1. Tae Kwon do students who attained high levels (red or black belts) have a greater disposition towards an internal locus of control. The mean scores for high level students was 27.68. The standard deviation was 4.39 and the standard error of the mean was .936. The mean scores for low level students was 24.44. The standard deviation was 3.93 and the standard error of the mean was .785.
2. The results of the T-Test (**T(45)=2.672, P=.01**) were significant ( $p < .05$ ). There is less than a 5 percent chance that the results were due to chance. The null hypothesis can be rejected.

H<sub>1</sub>=Students who have attained a high rank (red or black belt) in Tae Kwon Do taught in an traditional manor, will score higher towards an internal locus of



control on the Nowicki-Strickland locus of control scale compared to students who are a low rank (white, yellow, or green belt).

H<sub>0</sub>=Students who have attained a high rank (red or black belt) in Tae Kwon Do taught in a traditional manor, will not score higher towards an internal locus of control on the Nowicki-Strickland locus of control scale compared to students who are a low rank (white, yellow, or green belt).

**Group Statistics for Scores on the Nowicki-Strickland Locus of Control Scale**

ABILITY	NUMBER	MEAN	S. Deviation	S. Error of X
Advanced	22	27.6818	4.3903	.9360
Beginner	25	24.4400	3.9273	.7855

**Results of Independent T-Test (Equal Variance Assumed)**

	t	df	Sig. (2 tailed)	Mean Differenc e	Std. Err. Differenc e	95% Confidence Upper	Lower
SCORE	2.672	45	.010	3.2418	1.2131	.7985	5.6851

Chart 1 shows the dispersion among high-ability and low-ability students as a function of age. Some trends are apparent in the chart. Clearly the advanced students scored higher on the internal locus of control measures. Chart 1 allows for visualization of the results that support the hypothesis. Chart 2 was compiled using the same numbers as chart one, however mean score were looked at to simplify the data. In

Chart 1

# High Vs Low Ability Test Scores as a Function of Age

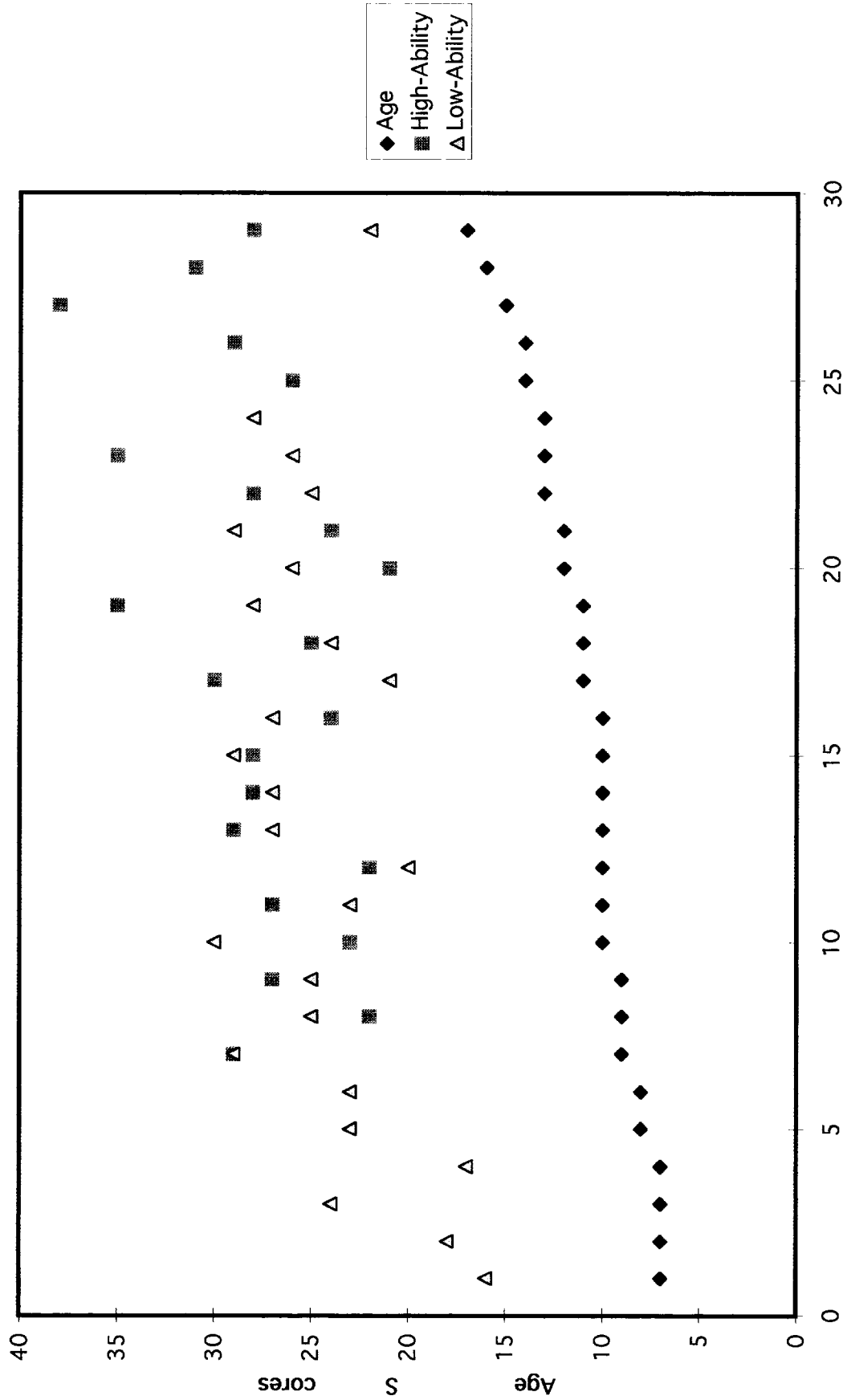
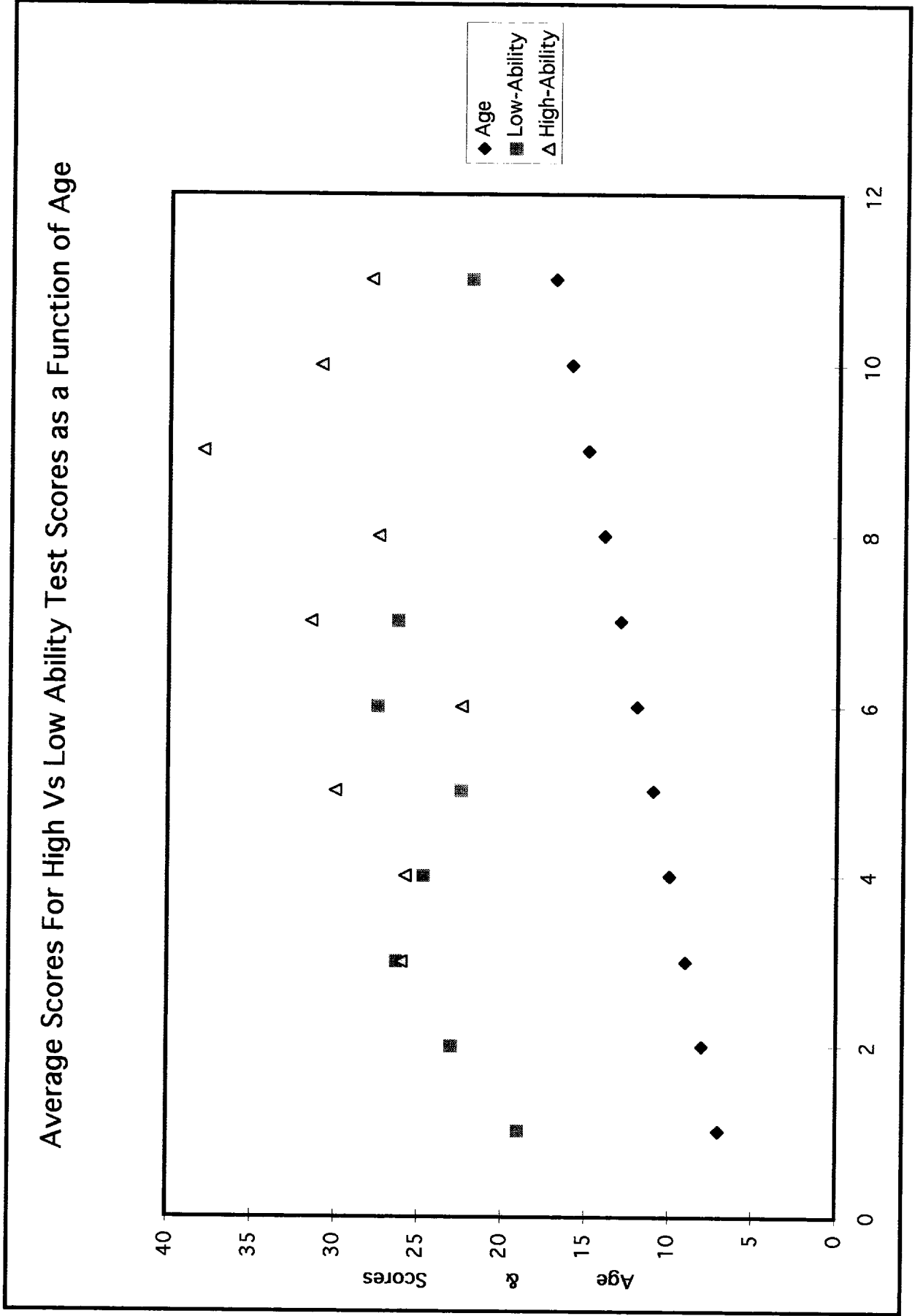


Chart 2



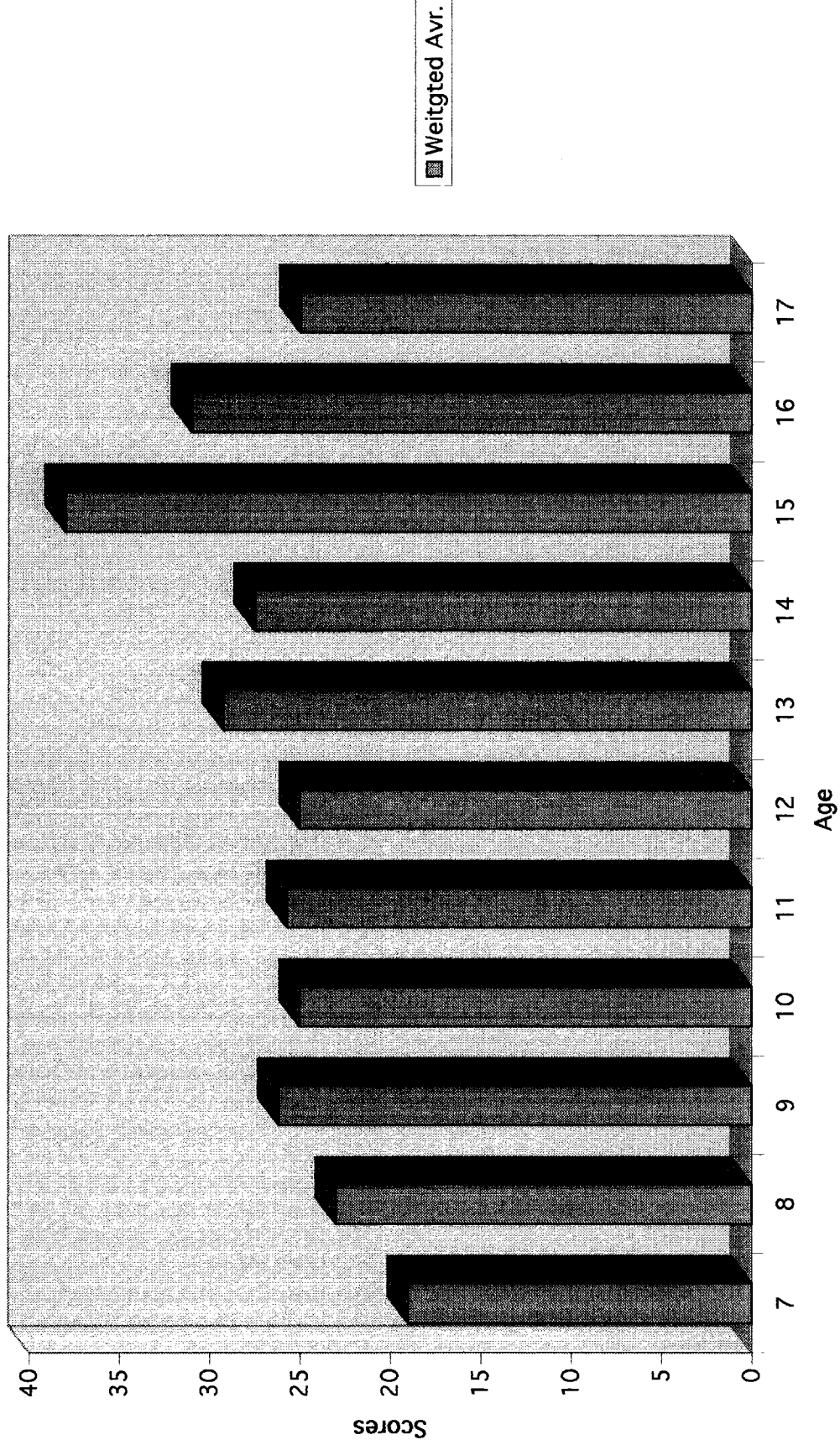
chart#2 there are only eight markers for low ability students and nine markers for high ability students. Again this chart allows one to easily see the greater tendency for advanced Tae Kwon Do students to score higher on internal locus of control measures.

The second trend that is clear in chart 1 and chart 2 is that high scores (towards an internal locus of control) increase as a function of age. This trend was clear in both high-ability and low-ability students. To better understand this trend, a Pearson R correlation was used. The Pearson R yielded a correlation of .394 significant at the .01 level (two tailed). Thus the correlation is strong. To look at how age and score were correlated, the average weighted scores of low-ability and high-ability students were combined (see Chart 3). Chart 3 allows for the clearest visualization of this finding. While there is an inverse correlation between ages 15 and 17 it must be noted that the sample sizes between these age groups were very small. Thus this age group represents the weakest validity of the sample size. The general pattern remains clear.

Students who have attained a high rank (red or black belt) in Tae Kwon Do taught in a traditional manner, scored higher towards an internal locus of control on the Nowicki-Strickland locus of control scale compared to students who have a low rank (white, yellow, or green belt). A T-Test was incorporated to look at the difference in scores between the two groups (high-ability & Low Ability). This test was used because it is a “tight test” that looks at cause and effect relationships. The findings were significant ( $p < .05$ ). There is less than 5% chance that the results were due to chance. The null hypothesis can be rejected.

Chart 3

Combined Weighted Average of High and Low Ability Students Test Scores



## Chapter 5

### Summary of Chapters

Research has shown that in developed industrial nations, having an internal locus of control is advantageous towards many aspects of life including conformity, control in differing environments, social skills, and learning skills (Rotter, 1966; Chance, 1965; Crandall, Katkovsky, & Preston, 1962; Nowicki-Strickland, 1971; Clifford & Cleary, 1972; Hollender, 1971; Hountras & Scharfe, 1970). Further research has shown that there is a strong environmental correlation's between locus of control and environment. Not only is the locus of control concept strongly influenced by environment, but by manipulating the environments internally motivated individuals can display internal characteristics and vice-versa.

Martial arts is unique from other sports in its' clear breakdown of ability level, discipline requirement, and parallels to a psychological legacy. Martial arts training was looked at when taught in a traditional manor that placed emphasis on the study of forms, proper breathing techniques, discipline in movement and mind, and fighting techniques. While the lessons learned are a value to all, only those students who continued to practice for many years gained the full experience, and be able to transfer the motivation requirements to other aspects of life. Students who have attained high rankings were

hypothesized to show a higher percentage of internal locus of control than students held a low rank.

Previous research has found significant correlations between achievement in traditional martial arts and positive aspects of personality such as mastery orientation, intrinsic motivation, perceived competencies, sociability, personal efficacy, self confidence, and decreases in aggression and anxiety. Research has also shown that non-traditional martial arts produces negative aspects of personality such as decreases in sociability, mastery orientation, and intrinsic motivation. Other negative attributes include increases in anxiety and aggression. When martial arts are taught in a non-traditional manner, the benefits disappear, and are replaced with negative attributes. While there were some discrepancies concerning the benefits of Tae Kwon Do for beginning students, the results were clear that students who practiced for years and attained high levels consistently displayed more positive aspects of personality.

The psychological legacy and the principles learned in traditional Tae Kwon Do inherently reflected an internal locus of control. Many of the studies found that locus of control is not set in stone, rather it can change based upon the environment. Although numerous studies were presented that showed how changes in the environment caused changes towards an internal or external locus of control, the majority of the studies looked at short term effects. If we are to believe that the locus of control concept is based upon generalized beliefs about the contingencies of reinforcements, then it would seem plausible that short term changes in environment cause short term changes in locus of control. By placing children in an environment conducive to an internal locus of control for long

periods of time, it is possible that the findings will be more accurate of a true change towards an internal disposition.

One of the greatest strengths of this study was its simplicity. This study was very straightforward. A cross section of Kwak's Tae Kwon Do was used to compare students of different ability levels. Students were grouped according to belt level (beginning students and advance students). Both groups were given the Nowicki-Strickland Locus of Control Scale randomly over a three week period. Using an independent T-Test a comparison of test scores was made to allow for the rejection or acceptance of the null hypothesis. Because equal number of students were randomly compared from the same studio, many confounding variables were eliminated. Students live in the same general area, and come from similar SES. Teaching style was not an issue because all students were taught by the same people. The hypothesis was direct and straight forward.

The results of the study found that students who had attained a high rank (red or black belt) in Tae Kwon Do taught in an traditional manor, scored higher towards an internal locus of control on the Nowicki-Strickland locus of control scale compared to students who have a low rank (white, yellow, or green belt). A t-Test was incorporated to look at the difference in scores between the two groups (high-ability & Low Ability). This test was used because it is a "tight test" that looks at cause and effect relationships. The findings were significant ( $p < .05$ ). There is less than 5% chance that the results were due to chance. The null hypothesis can be rejected.



## **Conclusions**

1. Advanced students (red or black belt) of Tae Kwon Do taught in a traditional manor had greater scores towards on internal locus of control, compared to beginning students (white, yellow, or green belt). (Using a T-Test findings were significant ( $p > .05$ )).
2. A strong correlation exists between age and locus of control. Older students scored higher towards an internal locus of control. (Using a Pearson R correlation results of .394 were found significant at the .01 level (two tailed)).

## **Discussion**

The results indicate that students in Kwak's Tae Kwon Do who attained advanced standing (red or black belt) scored higher on the Nowicki-Strickland Locus of Control Scale towards an internal degree. Secondly findings found a strong correlation between locus of control and age.

The findings are consistent with studies by MacArthur (1970), Harvey (1971), Smith (1970), and Dwek & Reppucci (1973) in that environments interact with locus of control. Thus an individuals locus of control is not set in stone, but rather interacts with the environmental situation. Perhaps the study by Nowicki and Barnes (1973) provided the best example of this by placing inner-city children in a structured camp environment. Children were tested before they went to camp and after they returned. Results found that the majority of students showed increases towards an internal locus of control.

While it is clear that locus of control interacts with environment, there is less documentation concerning long term studies.

This study was able to make long term comparisons between children, simply because the advanced students had to practice for a number of years, while the beginning students did not. For this reason, this study had benefits similar to a longitudinal study. Age was not a factor in this regard because both groups had older and younger students. The results support previous studies of environment and locus of control, but in many regards are stronger because the longitudinal nature of this study.

The study found a strong correlation between age and locus of control. As children grow older, they tend to move towards an internal disposition. This findings was very consistent with previous research and for the most part is accepted (Leftcourt, 1976). There has been some speculation that the relationship between age and locus of control is not a direct one. Even so, the majority of theorist past and present have found that older students tend to be more internally motivated (Crandall, 1965).

This study was based around Rotter's Social Learning Theory. What makes Rotter's Social Learning Theory unique is that rather than focusing on individuals' expectations for a reward, Rotter explores the beliefs of why one received or did not receive a reward. The cause of the reinforcement is perceived as having equal importance as the reinforcement in itself. This study found that advanced students in Tae Kwon Do were more internally motivated than beginning students. From these findings it appears that Tae Kwon Do achievement relates to internal motivation. Secondly we know that children enjoy taking martial arts lessons (there is no study needed to prove this). Thus

they are internally motivated to participate in an activity that appear to increase internal motivation.

### **Implications For Future Research**

Eastern thought has become more prominent in our western society. Today parents are willing to pay \$100+ a month so their children will gain the benefits martial arts promises to offer. Historically Tae Kwon Do is based around the do concept. The principles are inherently based upon an internal self exploration. The ultimate goal of Tae Kwon Do is to achieve a level of consciousness known as present time. This is only achieved when one is completely in tune with himself and nature, to a degree in which all actions and reactions are coordinated with the forces in life. Goals of Tae Kwon Do involve mastery orientation, intrinsic motivation, personal efficacy, and self confidence. The psychological legacy is in tune with many aspects of Rotter's locus of control theory. However research validating these principles has been lacking.

The findings of this paper due support my hypothesis. However the results are based on a very small sample size. I believe this work although limited in size, can provide excellent insight into the benefits of Tae Kwon Do. In the future, I would hope to get many studios involved in this type of study. I strongly believe greater sample size will strengthen my findings. In future studies, Tae Kwon Do studios should be grouped together on certain categories to find cause and effect relationships for different styles of teaching. Class discipline, contact allowed (light, moderate, and full), and standards of expectation can be used for grouping studios.

The benefits discussed in this paper are found in a traditionally taught studio. This cannot be emphasized this enough. Promoting accountability in the studios by continued study and research will provide parents and students with necessary knowledge concerning the real benefits of Tae Kwon Do. Through this process the ideals of Tae Kwon Do can flourish. The locus of control concepts parallels Tae Kwon Do etiology. Further research is warranted and may offer continued support for the benefits of Tae Kwon Do.

## Bibliography

Battle, E., & Rotter, J. B. (1963). Children's feelings of personal control as related to social class and ethnic groups. Journal of Personality, 31, 482-490.

Bandura (Eds.). Analysis of delinquency and aggression. Hillsdale, NJ: Laurence Erlbaum Association.

Bandura, A. (1973). Aggression: A social learning analysis. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.

Chance, J. E. (1965). Internal control of reinforcements and the school learning process. Paper read at Society for Research in Child Development meeting, Minneapolis.

Clifford, M. M., & Cleary, T. A. (1972). Relationship between children's academic performance and achievement accountability. Child Development, 43, 647-655.

Cohn, E.S., Kidder, L. H., & Harvey, J. (1978). Crime prevention vs. victimization prevention: the psychology of two different reactions. Victimology: An International Journal, 3, 285-296.

2nd page 34

54 "Filmed as Bound"

- Crandall, R. (1979). Social interaction, affect and leisure. Journal of Leisure Research, 11, 165-181.
- Crandall, Virginia C., Walter Katkovsky, & Vaughn J. Crandall. (1965). Children's beliefs in their own control of reinforcements in intellectual-academic achievement situations. Child Development, 36, 91-105.
- Crowne, D. P., & Liverant, S. (1963). Conformity under varying conditions of personal commitment. Journal of Abnormal and Social Psychology, 66, 547-555.
- Duthie, R. B., Hope, L., & Barker, D.G. (1978). Selected personality traits of martial artists as measured by the adjective checklist. Perceptual and Motor Skills, 47, 71-76.
- Dweck, C. S. & Reppucci, N. D. (1973). Learned Helplessness and reinforcement responsibility in children. Journal of Personality and Social Psychology, 25, 109-116.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. Psychological Review, 95, 256-273.
- Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. Journal of Personality and Social Psychology, 54, 5-12.
- Ferguson, T.W. (1995). Let's talk to the master. Forbes, 156 (10), 138-140.
- Glynn, M.A., & Berta, S.M. (1991). Aggressive Behavior as a function of taekwondo ranking. Perceptual and Motor Skills, 72, 179-182.

Harvey, J. M. (1971). Locus of control shift in administrators. Perceptual and Motor Skills, 33, 980-982.

Hollender J. (1971). Parental and family antecedents of interpersonal distance and internality. Unpublished manuscript, Emory University.

Houtras, P. T., & Scharf, M.C. (1970). Manifest anxiety and locus of control of low-achieving college males. Journal of Psychology, 4, 95-100.

Iso-Ahola, S. E., & Park, C. J. (1996). Leisure-related social support and self-determination as buffers of stress illness relationship. Journal of Leisure Research, 28 (3), 169-187.

James, W. H. & Rotter, J. B. (1958). Partial and 100% reinforcement under chance and skill conditions. Journal of Experimental Psychology, 55, 397-403.

Janoff-Bulman, R., Madden, M.E., & Timko, C. (1983). Victims' reactions to aid: the role of perceived vulnerability. In A. Nadler, J. D. Fisher, & B. DePaulo (Eds.), Applied perspectives on help-seeking and receiving aid. New York: Academic Press. Pp. 21-42.

Kaplan, H. I., & Saddock, B.J. (1981). Modern synopsis of comprehensive textbook of psychiatry/III, 3rd Edition. Baltimore, MD: Williams & Wilkins Co.

Konzak, B., & Boudreau, F. (1984). Martial arts training and mental health: An exercise in self-help. Canada's Mental Health, 1-8.

Kurian, M. (1994). Relating scales on the children's personality questionnaire to training time and belt Rank in ATA Tae Kwon Do. Perceptual and Motor Skills, 79, 904-906.

Kurian, M., & Caterino, L. C. (1993). Personality characteristics and duration of ATA Tae Kwon Do training. Perceptual and Motor Skills, 76, 363-366.

Leftcourt, H. M. (1967). The effects of cue expectation upon persons maintaining external control expectancies. Journal of Personality and Social Psychology, 5, 372-378.

Leftcourt, Herbert M. (1976). Locus of Control: Current Trends in Research. Hillsdale, NJ: Lawrence Erlbaum Association.

Liverant, S., & Scidek, A. (1960). Internal and external controls determinants of decision-making under conditions of risk. Psychological Reports, 7, 59-67.

Lord, S. & Nosanchuk, T. A. (1977). On turning the other cheek: Non violence in Christianity and social psychology. Peace Research, 9, 153-164.

Madden, M. E. (1990). Attributions of control and vulnerability at the beginning and end of a karate course. Perceptual and Motor Skills, 70, 787-794.

Malmquist, C. P., (1985). Handbook of adolescence. New York, NY: Jason Aronson.

McArthur, L. A. (1970). Luck is alive and well in New Haven. Journal of Personality and Psychology, 16, 316-318.



- Nowicki, S., & Barnes, B. (1973). Effects of a structured camp experience on locus of control orientation. The Journal of Genetic Psychology, 122, 247- 252.
- Nowicki, S., & Strickland, B. R. (1973). A locus of control scale for children. Journal of Consulting and Clinical Psychology, 49 (1), 148-154.
- Odell, M. Personality correlates of independence and conformity. Unpublished masters thesis, Ohio State University, 1959.
- Ozer, E.M., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis. Journal of Personality and Social Psychology, 58 (3), 472-486.
- Park, Y. H., Park, Y. H. & Gerrard, J. (1989). Tae Kwon Do. New York, NY: Facts on File.
- Phares, E. J. (1957). Expectancy changes in skill and chance situations. Journal of Abnormal and Social Psychology, 54, 339-342.
- Rothpearl, A. (1980). Personality traits in martial artists: A descriptive approach. Perceptual and Motor Skills, 50, 395-401.
- Rotter J. B. (1980). Trust and gullibility. Psychology Today, 35-40.
- Rotter, J. B. (1966) Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80.
- Rotter, J. B. (1971) External and internal controls. Psychology Today, 37-59.

Saucier, J.F., & Ambert A.M. (1983) Parental marital status and adolescents' health-risk behavior. Adolescence, 18 (70), 403-411.

Seeman, M., & Evans, J. W. (1962) Alienation and learning in a hospital setting. American Journal of Sociological Review, 27, 772-783.

Selgman, M., & Maier, S. (1967) Failure to escape traumatic shock. Journal of Experimental Psychology, 74, 1-9.

Sherman, L. W. Developing perceptions of control: cross sectional and longitudinal analyses. A paper presented to the 1984 annual convention of the American Psychological Association, Toronto, Ontario, Canada ED 249-458.

Slavin, R. (1987). Mastery learning reconsidered. Review of Educational Research, 57, 175-213.

Smith, R. E. (1970) Changes in locus of control as a function of life crisis resolution. Journal of Abnormal Psychology, 75, 328-332.

Stipik, D. (1988). Motivation to Learn From Theory to Practice. Needham Heights, MA: Viacom.

Theeboom, M., & Knop, P.D. (1995). Motivational climate, psychological responses and motor skill development in children's sport: A field-based study. Journal of Sport & Exercise Psychology, 17, 294-311.

Trulson M. E. (1986). Martial arts training: A novel "cure" for juvenile delinquency?  
Tae Kwon Do Times, 85-86.

Wang, M. & Stills, B. (1976). An investigation of children's concept of self-responsibility  
for their school learning. American Educational Research Journal, 13, 159-179.

Weiner, B. (1980). The role of affect in rational approaches to human motivation.  
Educational Researcher, 9, 4-11.

Weiner, B. (1994). Integrating social and personal theories of achievement striving.  
Review of Educational Research, 64, 557-573.

## **Appendix I : The Nowicki-Strickland Locus of Control Scale**

1. Do you believe that most problems will solve themselves if you just don't fool with them?
2. Do you believe that you can stop yourself from catching a cold?
3. Are some kids just born lucky?
4. Most of the time do you feel that getting good grades means a great deal to you?
5. Are you often blamed for things that just aren't your fault?
6. Do you believe that if somebody studies hard enough he or she can pass any subject?
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
9. Do you feel that most of the time parents listen to what their children have to say?
10. Do you believe that wishing can make good things happen?
11. When you get punished does it usually seem it's for no good reason at all?
12. Most of the time do you find it hard to change friend's opinions?
13. Do you think that cheering more than luck helps a team win?
14. Do you feel that it's nearly impossible to change your parent's mind about anything?
15. Do you believe that your parents should allow you to make most of your own decisions?
16. Do you feel that when you do something wrong there's very little you can do to make it right?
17. Do you believe that most kids are just born good at sports?
18. Are most of the other kids stronger than you are?
19. Do you feel that one of the best ways to handle most problems is just not to think about them?
20. Do you feel that you have a lot of choice in deciding who your friends are?
21. If you find a four-leaf clover do you believe that it might bring you good luck?

22. Do you often feel that whether you do your homework has much to do with what kind of grades you get?
23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him, or her?
24. Have you ever had a good luck charm?
25. Will your parents usually help you if you ask them to?
26. Will your parents usually help you if you ask them to?
27. Have you felt that when people were mean to you it was usually for no reason at all?
28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?
29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?
30. Do you think that kids can get their own way if they just keep trying?
31. Most of the time do you find it useless to try to get your own way at home?
32. Do you feel that when good things happen they happen because of hard work?
33. Do you feel that when somebody your age wants to be your enemy there's little you can do?
34. Do you feel that it's easy to get friends to do what you want them to?
35. Do you usually feel that you have little to say about what you get to eat at home?
36. Do you feel that when someone doesn't like you there's little you can do about it?
37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?
38. Are you the kind of person who believes that planning ahead makes things turn out better?
39. Most of the time, do you feel that you have little to say about what your family decides to do?
40. Do you think it's better to be smart than to be lucky.