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PREVIEW

**Karate and Mental Health:
Can the Practice of a Martial Art Reduce Aggressive Tendencies?**

By

Uriel B. Adler, M.S.Ed.

**A Doctoral Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Psychology
in the Department of Psychology at Pace University**

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PREVIEW

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ABSTRACT

The present study explored the relationships between youth's martial arts practice and various aspects of their mental health, particularly their aggressive tendencies. Conceptual literature suggests the potential of both sport and martial arts to reduce aggression; however, empirical research distinguishes between the two. Specifically, many studies have shown that sport alone is often not a successful means of socialization (Stevenson, 1975, 1985). In contrast, martial arts research has been more promising. Specifically, studies have shown that martial arts practice is associated with, and sometimes clearly affects, lowered rates of aggression (Trulson, 1986, Zivin et al., 2001). Some studies have distinguished between traditional training and nontraditional training (Trulson, 1986, Nosanchuk, 1981). Traditional training is a concept whose definition varies slightly among studies. However, it generally includes such components as kata (choreographed sequences), respect, lecture and meditation. Nontraditional training in contrast, emphasizes mostly fighting and self-defense techniques. Contact is often unrestricted.

In examining the psychological correlates of karate/Tae Kwon Do training, the current study focuses on the relevance of traditional training as a whole, as well as the individual components of traditional training, such as kata, respect, etc. The study also investigated other aspects of training including commitment to training, as well as length, frequency and intensity of training. It was hypothesized that Length of Training, Frequency and Duration of Training, Belt Rank, Intensity of Training, Commitment to Training, Meditation, Philosophy, Hyeungs/Kata, Respect,

Traditionality and Avoidance of Heavy Contact would predict Aggression, Delinquency, Externality and Frustration Tolerance. Most of the predictor variables were measured through subjects' responses to a single question. Commitment, however, was measured using the Commitment to Karate Questionnaire (Wingate 1993). The outcome variables of Aggression, Delinquency and Externality were measured using the Youth Self Report (Achenbach, 1991). Frustration Tolerance was measured by a section of a questionnaire developed by Thompson and Dodder (1986).

In addition to primary analyses, which focused on externalizing difficulties, secondary analyses examined the relationships between the predictors and the remaining variables of the Youth Self Report. Some of these variables included Attentional Difficulties, Somatization, Anxiety/ Depression, etc. Exploratory analyses also explored the relationships to Self-Esteem, and Body Image. Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965) Body image was measured through a set of four questions devised for this study.

The results were consistent with prior research in some ways, but were inconsistent in others. Specifically, Kata was negatively correlated with Aggression, Delinquency and Externality. Respect was negatively correlated with Externality. In other words, emphasis on kata and respect was associated with lower levels of externalizing behaviors. In addition, Intensity of Training was significantly correlated with Frustration Tolerance, suggesting that more intense training was associated with increased frustration tolerance. However, unlike previous research,

neither belt rank nor other traditionality measures were correlated with outcomes related to aggression. Discrepancies with prior research are interpreted in light of the sample obtained for the study.

Several notable results obtained through secondary analyses, which measured correlations with other mental health variables. Most notable was that Belt Rank and Traditionality variables negatively correlated with attentional difficulties. In addition, Belt Rank, as well as Intensity of Training, were correlated with several other mental health outcomes. Implications for school psychology and early prevention of violence and related difficulties are discussed.

CHAPTER I

INTRODUCTION

The purpose of the present study was to examine psychological correlates of martial arts training (specifically karate and Tae Kwon Do) among male adolescents; of particular interest is the relationship between such training and levels of aggression. The need for this study stems from a significant body of literature which focuses on the continued problem of youth violence and the need for effective means of prevention and remediation. Results obtained from the current study would clarify the link between karate training and aggression and could help in the development of effective violence prevention and remediation programs.

Trends in youth violence have been well documented. A 2001 report by the Surgeon General (United States Department of Health and Human Services) noted that youth violence reached its peak in 1993. While some sources such as arrest records indicate that incidence has since declined, other data – notably, youth confidential reports (presumably private confessions to law enforcement and/or mental health officials) – suggest that numbers have remained stable. Some of the problems youth experience are specified in the 1999 Youth Risk Surveillance study (United States Center for Disease Control, 2000). For example, that study indicated that 17 percent of students had carried a weapon within 30 days prior to the study. Within 12 months prior to the study, 36 percent had become involved in at least one

physical fight. Problems with substance abuse were also noted. Specifically, 47 percent had used marijuana at least once during their lifetime, and more than one fourth had used it within 30 days.

Widespread awareness of the problems of youth violence has spurred the process of finding solutions (U.S. Dept. of Health and Human Services, 2001). In the 1970's many believed that little could be done in this area. However, knowledge of such factors as the correlates of violence has since led to the growth of primary, secondary and tertiary prevention programs. Some programs currently in existence include Functional Family Therapy, Life Skills Training and Parent-Child Interaction Training. Many programs, including those mentioned, are considered to hold promise. However, according to the U.S. Surgeon General's report (U.S. Dept. of Health and Human Service, 2001), hundreds of other programs have not yet been subjected to research and others have been shown to be either ineffective, or in some cases, harmful. In sum, the need for effective programs has risen alongside the need for outcome studies that will determine the efficacy of varied programs for reducing/preventing violence among youth.

In exploring new possibilities for violence prevention, one avenue not frequently noted is the incorporation of physical activity. The notable absence of this factor could be attributable to disappointing findings obtained in sports psychology literature. At one time, sports and physical education programs were thought to promote prosocial values (Arnold, 1994; Beedy, 1992). Subsequent research, however, revealed that rather than promoting cooperative and prosocial values, sports has become a competitive industry that sometimes actually yields increases in levels

of participant aggression (Stevenson 1975, 1985). Stevenson (1985) notes that increased awareness of these findings has had the effect of decreasing academic interest in this area. Perhaps these findings also account for the relative absence of the use of sports in violence prevention programs.

Despite waning interest in the connection between sport and character, however, momentum has been gathering for research exploring prosocial correlates and effects of martial arts training. Overall, research in this area is still limited, but existing studies have shown correlations between martial arts training and diminished aggression (Nosanchuk, 1981; Nosanchuk & MacNeil, 1989). Moreover, some studies have demonstrated martial arts effectiveness in rehabilitating youth already identified as troubled or delinquent (Trulson, 1986, Zivin et al., 1998).

If martial arts programs are indeed effective, their effects can be explained in many ways. One often cited perspective implicates a group of factors, collectively referred to as “traditional training.” Traditional training has been defined in several ways, but the definitions usually incorporate a variety of factors some of which include an emphasis on kata/hyeungs (or choreographed sequences), restrictions in sparring contact, and an emphasis on etiquette, meditation and lecture within the training. Research has supported the presumption that that this type of training is helpful (Trulson, 1986, Nosanchuk 1981). However, to date, research has not yet established which specific components included in the Traditionality factor are needed to produce results.

The purpose of the present study was to expand on earlier research. The primary focus of the study was to examine the levels of aggression, delinquency and

frustration tolerance in youth currently practicing karate or Tae Kwon Do. The study incorporated Traditionality as a factor to be explored, but did so in a manner that differs from prior research. Specifically, unlike previous studies, it investigated traditional training not only as a conglomerate, but also through each of its components. This approach is potentially valuable since it creates the possibility for distinguishing between essential and extraneous factors. A second way that the study built upon prior research was by incorporating several new predictor variables such as commitment to training, and by having introduced the exploration of frustration tolerance as a correlate/outcome. The study focused exclusively on adolescent males, since it is the population most often discussed within the context of “youth violence.” Therefore uncovering possible ameliorators of aggression in this population potentially carries the potential for the greatest clinical and societal impact.

The results of the study provide information and suggestions that impact in several areas, including martial arts, sports, and violence prevention. Within martial arts circles, the study provides instructors with the knowledge of the training factors which are associated with lowered levels aggression. Similarly, the study benefits parents and school personnel by suggesting that martial arts training is likely to be effective in helping troubled youth. In the sports arena, information can be extrapolated from this martial arts study, such that similar interventions can be created and implemented in that sphere. Finally, within the realm of violence prevention, the results suggest that martial arts training may be a valuable component in programs attempting to prevent or decrease youth aggression. Thus far, smaller-scale violence prevention programs which have incorporated marital arts have been

successfully implemented by Glanz (1994) and Berry (1991). The results of this study, however, implicate the use of martial arts training in larger scale violence prevention programs as well.

PREVIEW

CHAPTER II

REVIEW OF THE LITERATURE

Sports and Aggression

It is a widely accepted American belief that “sports build character” (Rees, Howell and Miracle, 1990; Dubois, 1986). When used in this regard, “character” refers to the development of social values (Best, 1985). Considering the possible values impacted, Eitzen and Sage (1978) especially considered abilities to conform, work hard and succeed. Rees Howell and Miracle (1990) add the acquisition of “sportsmanship.” This still rather vague term is thought to include such skills as self-control, and fair play and presumably reduced aggression.

The origin for the belief in the psychological benefits of sport can be traced to various sources. Bredemeier and Shields (1992) cite the writings of Plato as one possibility. Arnold (1994) focuses on more recent history. Specifically, nineteenth century British public schools included sports in their curricula for the very purpose of character development. Regardless of the origin, the belief became quickly disseminated in American society. In the early twentieth century, educators, acting on the belief that sports build values, incorporated sports activities into the educational system (Beedy, 1992). Politicians, theologians, and others have also spoken of the value of sports in their speeches (Bredemeier and Shields, 1992). One may speculate that this fundamental belief could explain the current popularity of

sports among youth. According to the 1999 Youth Risk Surveillance study, 55 percent of high school youth played on (and presumably had joined) sports teams.

A second issue concerns *how* sports might actually lead to a reduction in aggression. There are various approaches to this issue. A well-known theory, still maintained by some sports participants, is that of catharsis. The theory, which contends that sport provides a necessary outlet for naturally occurring and pent up aggression, has its roots in thinkers such as Freud, Lorenz and even Aristotle (Russell, 1983). It was believed that the expression of aggression in a controlled environment would prevent its flaring up in socially unacceptable forms. This belief, though disputed (Bandura, 1973), continues to be most often maintained by those who themselves participate in aggressive sports (Wann, et al., 1999).

More contemporary theories maintain that the potential benefit of sports relates to the social opportunities embedded in the sport milieu. Arnold (1994), for example, states that one's participation in sports should help him/her to develop mutual respect, cooperation and altruistic strivings. Beedy (1992, p 156) encapsulates the idea:

Team sports provide a complex social world where people with different perspectives and roles work together toward mutually inclusive goals. The social world embraces relationships among teammates, parents and coaches; issues of team conflict and harmony; and fairness in relation to team rules.

Estrada, Gelfand and Hartmann (1988) emphasize social learning theory, or the importance of imitation and reinforcement of behaviors, as the means

through which character is learned. Specifically, when engaged in sport, children observe their peers engaged in prosocial activity. These behaviors are, in turn, reinforced by the child's family, coaches and peers.

Suggesting another link between prosocial behavior and participation in sport, Schafer (1972) surmises that sports may reduce delinquent behavior through providing an alternate activity which provides the same types of reinforcement as delinquent behavior. Specifically, sport provides a prosocial means of achieving such aims as masculinity and avoidance of boredom. Consequently, when engaged in sport, youth will no longer seek out modes of aggression to fulfill these needs.

In contrast to theory, applied research has not produced such promising results. Explaining the conclusions drawn by sports and socialization researchers, Stevenson conducted two thorough reviews of the benefits of college athletics on socialization (1975, 1985). In each of the reviews, Stevenson concluded that the research did not clearly support the notion that sports build character. Stevenson's further noted that fewer studies were available for his second review. Stevenson (1985) interpreted this finding as suggesting that researchers had become more cognizant of the broad failure of scientific research to support the proposed social benefits of sports. Consequently, interest in this area waned.

Despite the finding that broadly sports could not be said conclusively to provide what Stevenson (1975) referred to as "psychological socialization effects" (internal attitudinal changes), Stevenson suggested that research did suggest an association between sports and reduction delinquency (presumably a *behavioral* effect). However, Stevenson was careful to distinguish between correlation and

causality (which had not been demonstrated). It is additionally important to note that the studies on which Stevenson based this conclusion may be questionable. For example, a study often cited as supporting these results is that of Landers and Landers (1978). However, Peek, Picou, Alston and Curry (1979) comment the study was thought to be biased by social expectations. Another study sometimes cited as supporting the connection between sports and reduction in delinquency is that of Segrave & Halstad (1982). However, the study found that only minor sports were helpful in this area; in contrast, major sports were found to have the reverse effect (e.g., major sports for males was defined as basketball, baseball ice hockey and football; minor sports were not defined).

The majority of the studies in this area have been cited by Stevenson (1975, 1985) and need not be repeated. However, some are seminal studies. In addition, other studies continued to be conducted even after his second review. One frequently cited study was that of Kleiber and Roberts (1981). These authors attempted to isolate the “character” trait professed by sports enthusiasts to be harnessed through its participation. After zeroing in on altruism, Kleiber and Roberts (1981) conducted a field experiment which measured the effects of a competitive sports “world series” on the generosity of fourth and fifth grade children. The results showed that for boys, the sports experience resulted in a significant decrease in altruistic behavior. The authors attributed the results to the effects of competition and assert that teamwork-building exercises would be needed to produce positive effects.

A larger scale study of high schools students was conducted by Best (1985). Best surveyed approximately 1800 athletic and nonathletic male students throughout

the United States. The two groups were compared across a variety of value-measures, including honesty, social skills, religion and self-control. The results showed little or no difference between the athletic and nonathletic groups in any of the areas. These results suggest that the mere participation in sports does not in and of itself promote prosocial values.

A study by Bredemeier, Shields, Weiss and Cooper (1986) investigated the effects of sport participation on children's moral reasoning and aggressive tendencies. They administered questionnaires to fourth through seventh grade students measuring their sports involvement and interest, as well as their levels of aggression. They also administered interviews measuring the children's levels of moral reasoning. The study found that children who had participated in heavier contact sports had slightly lower levels of moral reasoning and correspondingly higher levels of aggressive behaviors both within and outside the sport context. Stephens (2001) found similar results. In her study, girls who had more experience participating in competitive sport were more likely to reason morally at preconventional levels. These girls were also more likely to approve intentional injury of their opponents. Although the selection hypothesis cannot be ruled out (those who are more aggressive are attracted to heavier contact sports) the studies indicate that sport did not raise students' level of reasoning. Furthermore, Bredemeier et al. (1986) suspect that the perception of one's sport as aggressive provides license to children to act aggressive in their daily lives as well.

Rees, Howell and Miracle (1990) conducted an archival study to investigate the longitudinal effects of sport on aggression and/or prosocial values in high school