

## JUDO—THE GENTLE WAY: A REPLICATION OF STUDIES ON MARTIAL ARTS AND AGGRESSION<sup>1</sup>

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*Summary.*—There have been numerous studies of the effects of traditional martial arts training on aggressiveness, most reporting a decline in aggressiveness with training. The majority of these studies have examined students of karate or taekwondo, disciplines emphasizing strikes and blocks. In contrast, this cross-sectional study examined the effects of traditional judo training on aggressiveness by looking at 51 judo students. Furthermore, we incorporate into our analysis two variables generally associated with aggression, age and sex, to control for their effects. Aggressiveness declined as expected across training and ages, but surprisingly sex had no effect in this setting.

The relationship between traditional martial arts training and aggressiveness has been investigated by a number of researchers using a variety of methods and different samples of subjects (e.g., Nosanchuk, 1981; Trulson, 1986; Skelton, Glynn, & Berta, 1991). Most replicate the major finding that traditional training is associated with a decline in aggressiveness. While this finding can be considered robust, important questions remain. Most important, since the studies used either cross-sectional or short-run longitudinal designs, the question of whether the observed decline can properly be attributed to the effects of training and socialization rather than to the artifact of differential mortality, whereby more aggressive students are systematically selected out, remains unanswered. Nosanchuk and MacNeil (1989) explored this issue in a preliminary way by examining aggression among students who either moved to another dojo (martial art practice hall) or dropped out entirely. While the results supported the socialization hypothesis, the sample was not random and too small for confidence. Moreover, several variables generally associated with aggression, notably age and sex, had not been adequately controlled for either through sampling or research design.

The problem of training versus selection arises in part because most previous studies have focused on karate and taekwondo (Korean variant of karate), disciplines that emphasize blocking, punching, and kicking (henceforward 'hard' arts). These are generally perceived as aggressive, "macho" activities and thus would be expected to recruit from a population with such propensities.

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In contrast, other martial disciplines, the most familiar being judo (literally, the gentle way), are perceived as more defensive or "soft" as they emphasize throws and holds rather than strikes. While judoka (judo students) can be as competitive and aggressive as students of the hard arts, the philosophy is very different. Ishikawa and Draeger (1962) observed that "a main feature of the art is the application of the principle of non-resistance and taking advantage of the opponent's loss of equilibrium: hence . . . Judo (translates to the) doctrine of softness or gentleness" (p. 20).

The differences between hard and soft arts are evident from the start of training; the hard arts begin almost immediately to train blocks and strikes, while judo students begin by learning how to fall safely. In this connection, Grady (1998) observed

judo and aikido . . . will never dominate the American martial arts field in part because they won't "look real" to cinema-schooled consumers and in part because the first technique students of each art must learn is falling, a physically challenging and ego deflating education (p. 90).

Thus, we may reasonably expect that students who seek an aggressive, hard discipline would be unlikely to select judo and, should they select it, are unlikely to continue in the discipline. It should be clear here that we are arguing that what is soft about judo is its perception; the reality of judo can be extremely hard.

Consequently, if selection is a principal cause of the observed decline in aggressiveness, we should find little or no decline among judo students who have been trained for any length of time. If judo students, however, exhibit a decline in aggressiveness, this would be consistent with the socialization hypothesis—that training causes decreased aggression. Thus, the two competing explanations predict clearly different outcomes.

#### METHOD

This study replicates Nosanchuk (1981) in its use of a cross-sectional design while extending the study to students of judo. Research participants were 51 members of three local dojos. Cooperation was maximized in three ways. First, the first author met with the sensei (teacher) and explained the purposes of the research; second, he took part in a class and was introduced to the other students; third, informed consent forms and questionnaires were administered to volunteers during class time provided by the sensei. This procedure appears to have been effective in that 51 out of 54 students completed the questionnaire.

#### *The Variables*

The dependent variable, aggressiveness (more properly, aggressive fantasy) was indexed by a composite of two different measures. The first mea-

sure consisted of responses to scenarios adapted from those used in Novaco's (1975) research on anger control in which the respondents are asked to imagine their responses to hostile or frustrating situations and their aggressive responses are tallied. The second measure is a subset of items from the Rosenzweig Picture Frustration Test (1978), a projective test in which roughly drawn characters are portrayed in highly frustrating situations with a cartoon-type balloon provided for reactions. A typical item shows one man saying to a second, "you're a liar and you know it!" The replies are then coded for aggressive fantasy (see Nosanchuk, 1981, for details on coding and index construction). Rosenzweig (1978) claims that "the picture frustration test is a promising tool for the understanding of aggression in athletics and sports" (p. 60).

The principal predictor of attainment in martial arts is training. This was indexed by belt level, coded in seven steps from white or beginner (=1) to black (=7). Years of judo training for the sample ranged from 0 to 36 with a *M* of 7.3 and *SD* of 10.4.

Two variables, age and sex, are good candidates for control variables in that they are strongly related to aggression, and these variables may confound the training-aggression relationship. This is most clear for age which is correlated with violent aggression and, since advanced students are generally older than beginners, is correlated as well with belt level. The subjects in this study ranged in age from 11 to 63 years, with a *M* of 30.5 and a *SD* of 13.0. Aggression is also correlated with sex and persistence in training is also likely to be related to sex (*ns*: 41 males, 10 females).

Age is treated here as a dummy variable. As desistance from criminality is generally noted at about thirty years of age (see, for example, Laub, Nagin, & Sampson, 1998, p. 230), it is coded "1" if thirty years old or older and "0" otherwise.

As for sex, there is abundant evidence that males are nearly always more aggressive than females (see, e.g., Eagly & Steffen, 1986). Males (*n* = 41) are coded "1"; females (*n* = 10) are coded "0."

The relationship between training and aggressiveness was assessed using OLS regression, incorporating the predictors of age and sex to measure both their individual contributions to aggressiveness, controlling for the other variables, and, more importantly, to hold them constant. This permits a purer examination of the training-aggression relation.

#### RESULTS AND DISCUSSION

When we examined the results for Step 1 in Table 1 we found, as expected, a statistically significant  $R^2$  and, as well, that the regression weights for both age and belt were negative and statistically reliable at beyond the .10 level (one-tail), with belt contributing more. In Step 2, we saw again a

significant  $R^2$ , again with all the weights negative, as predicted. The weight for sex, however, when controlling for age and belt level, was far from significant and added virtually nothing to the  $R^2$ . Since the sample was not random, the various statistical tests are intended as a measure of association only and should not be interpreted inferentially.

TABLE 1  
SUMMARY OF REGRESSION FOR BELT LEVEL, AGE, AND SEX ( $N=51$ )

Step	Variable	B	SE B	B
1	Belt	-2.32	1.107	-.299
	Age	-7.45	4.597	-.230
2	Belt	-2.54	1.191	-.326
	Age	-7.32	4.638	-.226
	Sex	-3.05	5.695	-.075

Note.— $R^2 = .20$  Step 1,  $.20$  Step 2.

Moreover, as can be seen in Table 1, not only was  $R^2$  virtually unchanged with sex added, the weights for belt and age nearly identical to those in the first equation, further supporting our claim that, for these data at least, sex was unrelated to aggressiveness. Since the males studied here were no more aggressive than the (normally less aggressive) females, this finding provided some additional (although slight) support for our assumption that students selecting judo are less likely to be aggressive than comparable students in the hard disciplines.

Aggressiveness has regularly been found to decline with traditional martial arts training, but the reason for this decline is not fully understood. In particular, it is unclear whether this is due to aspects of training or a consequence of more aggressive students being selected out of the disciplines. Judo was viewed as a useful setting in which to examine this question, as the more aggressive students are unlikely to choose or continue in this discipline. Therefore, if training is the primary cause of the decline, a comparable decline should be found with judo students. But if the decline is due to selection, we would expect to see little or none for these students. In fact, in a sample of 51 judoka at various levels of training, we observed a statistically significant decline, consistent with the training argument. This view is strengthened here in that this decline persists even after holding constant two factors, age and sex, generally strongly correlated with aggressiveness.

It turned out that the control for age was important, in that aggressiveness is most marked among the young and on average, junior belts are younger than senior belts. Using a dummy variable with a breakpoint at age thirty and with belt level held constant, older students were noticeably less aggressive than younger ones. This result strengthened the finding for training

and aggression as this relationship persisted after age was controlled. In contrast, no support was found for the usual association between sex and aggressiveness. This too is consistent with the hypothesis that judo attracts less aggressive students, both male and female, than the harder martial arts, although other interpretations are also possible.

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