Developing the Skills of Muscle Relaxation and Muscle Choice in Karate

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In sport it is important to: (i) only use appropriate muscles for execution of a given action; (ii) avoid over-tensing muscles that are necessary to the action; (iii) circumvent tensing (or relaxing) muscles that are unnecessary for the action. Unless all of these points are heeded, muscles cannot work in a fully effective fashion. In karate, when adopting the ‘on guard’ position, or attacking or defending, practitioners need only to tense the appropriate muscles to the required degree. However, when participating in practice or a match, it is difficult to loosen the muscles after every punch or kick because these actions are repeated so often. Furthermore, since most coaches do not teach any special method for muscle choice or muscle relaxation before and after they are used, practitioners themselves must consciously decide to concentrate on these tasks.

One way to accomplish this is to focus on muscle choice and use during routine daily activities such as brushing teeth, washing hair, writing, riding a bicycle etc. This is because people usually employ more muscles and strength than is necessary for these activities. If karate practitioners focus on this problem in their daily lives, and develop their skills during the day, it will become easier to transfer this behaviour to their karate.

The purpose of this study was to examine how karate practitioners could develop skills for muscle choice and appropriate muscle tensing through routine activities.

With regards to method, the subjects for this experiment were five high school karate students (two male and three female) aged between 15 and 16 (with an average age of 15.6 years). For eight nights in succession before going to bed, they responded to 10 questions about muscle choice and relaxation when engaged in various activities including brushing teeth, washing hair, writing, typing, riding a bicycle, eating, standing, sitting, and walking. Responses were given on a 5-point scale ranging from 1 (thoroughly tensed) to 5 (thoroughly relaxed). These students also attended karate practice every evening. On the first and last days, an instructor evaluated their muscle choice and muscle relaxation in five kihon (basic actions) and kumite (sparring actions), such as guard positions, punching, kicking and returning to a guard position using the same 5-point scale.

The results of the experiment showed that between the first and last days, the self-assessments of three of the subjects showed a greater degree of relaxation during their daily activities. With regards to the assessments by the karate instructor, four of the subjects showed an improvement in terms of relaxation in kihon, and three of subjects did the same in kumite between the beginning and end of the experiment. The subject who made most progress in relaxation for kihon and kumite actions had also done so in the self-assessment section.

The quality and quantity of this evidence was insufficient for us to be confident about stating as a conclusion that the subjects had developed the skills of muscle choice and relaxation for their karate by attending to these skills in the course of their daily activities. Given that any improvements occurred only over a very short timescale, and with a very small sample, we plan to expand our study and strengthen its conclusions by extending the timescale and increasing the number of subjects in further experiments.