

# Evolution of approaches in self-defence: from belief through experience to evidence-based self-defence training

## Authors' Contribution:

- A** Study Design
- B** Data Collection
- C** Statistical Analysis
- D** Manuscript Preparation
- E** Funds Collection

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## Abstract

### Background and Study Aim:

In history, different purposes lead to learning how to fight. Traditionally, there were and are martial arts based on rituals and intuition. Fighting was institutionalised in combat sports. Then scientific, or quasi-scientific approach to self-defence was more and more highlighted. Together with the evolution of thinking, the way of understanding the process of learning self-defence changed. A. Comte stated three general stages of the knowledge as fictitious, abstract and scientific. The purpose of this theoretical study is knowledge about approaches in self-defence.

### Material and Methods:

Theoretical methods were used for analysis in this article. The statements in this paper are based on analogy based on three general stages of the knowledge by A. Comte. For analysis of self-defence systems, induction and deduction were used to categorise them systematically. Comparison of different approaches in self-defence is used for the mixed assessments of three elements of self-defence learning as the student, the instructor, and the system.

### Results:

This article describes three fundamental approaches to self-defence training. We come out from the basic paradigm of fighting as a natural process. At the lowest level of evolution is self-defence training based on belief. Belief is irrational and without direct relation to reality. The second level of self-defence training based on experience is close to reality and grows out from reality. At the highest level of evolution is self-defence training based on evidence. Currently, there is not enough scientific information to achieve this level. At the same time, any self-defence system should be based on the evidence, the instructor should be well educated and experienced, and student should be motivated and should believe in the system and the instructor.

### Conclusions:

This approach calls for close co-operation between security forces and the academic community. On the other hand, there is need to re-define self-defence, self-protection, and personal safety, as the way of physical defence from the attack, the way of protecting the body in an unexpected situation, and the way of being in safe both physically and mentally.

### Keywords:

martial arts • thinking • learning • theoretical models

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**Self-defence** – open system of any precautions and actions preventing victimisation, deflecting acute threat using tactical, psychological, verbal or physical tools including use of reasonable force in accordance with the law in defence of necessity and mitigation of the negative effects of assault [2].

**Self-protection** – all actions undertaken in the hopes of preventing potentially harmful personal consequences (physical, emotional, financial, or otherwise) that may result from the aggressive acts of others [23]. Self-protection sees us avoid risks and is often contrasted with self-enhancement.

**Personal safety** – subjective feeling and objective living in the environment with no risk of being harmed by any personal consequences (physical, emotional, financial, cybernetic or otherwise) that may result from the aggressive acts of others persons as well as from the nature of the environment.

**Universal Declaration of Human Rights** – written and adopted by the United Nations in 1948. Although the Declaration is not in and of itself part of domestic law in particular countries, as it has no the nature of international law, 30 articles of the Declaration has become the single most important statement of international ethics [1].

**Innovative self-defence** – involves using verbal and/or behavioural methods and means along with available items in counteracting each attack on any good of an individual (honour, dignity, life, health, property, etc.), whereas a defender submits his/her actions to the criteria of *prophylactic and therapeutic agonology*, considering the most general directive of efficient leading of any struggles and also universal assumption of self-defence training as absolutely paramount [20, 22].

**Krav maga (KM)** – Israeli self-defence system, developed from military experience and constantly updated on the basis of violent incidents in the military, law enforcement and civil arenas, taught to security forces and civilians worldwide.

**Kata** – prescribed patterns or sequences of techniques [24].

## INTRODUCTION

Even the fight was prosecuted in history; there is still the need to defend or protect ourselves. After the terror of the World War 2, United Nations stated in the Universal Declaration of Human Rights that „No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks“ [1]. Global safety is closely tied to personal safety in the broadest sense of subjective feeling and objective living in the environment with no risk of being harmed. Because of possible danger from the environment and other persons, all self-protective actions are undertaken in the hope of prevention. Self-defence, as we understand it here, is an open system of any precautions and actions preventing victimisation, deflecting acute threat using tactical, psychological, verbal or physical tools including use of reasonable force by the law in defence of necessity and mitigation of the negative effects of assault [2].

Teaching martial arts, combat sports and self-defence is an essential part of being in safe in today's world. Traditionally, there were and are martial arts based on rituals and intuition. Fighting was institutionalised and sacralised in combat sports [3]. Then scientific, or quasi-scientific approach to self-defence was more and more highlighted. Together with the evolution of thinking, the way of understanding the process of learning self-defence changed. A. Comte stated three general stages of the knowledge as fictitious, abstract and scientific.

Auguste Comte (1798-1857) has studied natural sciences and philosophy in Paris. This French philosopher regarded his thoughts as culminating in the development of the history of philosophy. The development of thinking, according to Comte, evolved from religious, through metaphysical to positivist [4]. These stages originate from one another, their character differs, and it is even contradictory. In the religious, theological, or the fictitious stage, the human spirit seeks the very inner essence of the being. It imagines that everything arises, changes, and disappears through the action of one or more of supernatural factors in the process from animism, through polytheism to monotheism. In the metaphysical, abstract stage, supernatural agents are replaced by

abstract forces that are capable of producing all of the observed phenomena by themselves. In the final, scientific or positive stage, one realises that absolute knowledge cannot be obtained, he renounces this possibility, and his efforts are devoted to the systematic knowledge of real laws.

The purpose of this theoretical study is knowledge about approaches in self-defence.

## MATERIAL AND METHODS

Theoretical methods were used for analysis in this article. The statements in this paper are based on analogy based on three general stages of the knowledge by A. Comte. Except for that three important educational domains as cognitive, affective and psychomotor, also the process of learning self-defence is important [5]. The main effect of decomposing the purpose of this study on research tasks is: to analyse broader philosophical background in the self-defence training. We are interested in the common approach of the system to information, the philosophical framework of the learning process and mutual interactions among elements of thy system, instructor, and the student of self-defence.

In history, different purposes lead to learning how to fight in all cultures around the world. There is no nation without any tradition of the fighting method, or war history [6]. Although fighting is grounded in the evolution of humankind [7], and there is great amount of popular publication in the field, scientific research is scarce.

For analysis of self-defence systems, induction and deduction were used to categorise them systematically. Comparison of different approaches in self-defence is used for the tri-modal assessments of self-defence learning: as the **student**, the **instructor**, and the **system**. Today, many self-defence systems are commercially successful, claimed that they are well developed and able to teach the way of defending oneself. Some systems differ by tactics, techniques, or purpose of fighting. Some others are quite similar to each other but different by the name, marketing, and the spreading on the global scale.

## RESULTS

### System, instructor, student model

In the process of learning self-defence, one learns the system via the teaching of the instructor. Thus, the student, the system and instructor are the subject-object-subject factors of the educational process. Except for the necessity of understanding the learning process in all three domains as cognitive, affective and psychomotor is essential, also approaches in self-defence is important. We are interested in broader philosophical framework here and the interactions of particular elements of the student, instructor and the system.

#### System

When talking about self-defence system, the target group should not be omitted. Self-defence system is transferred to them by the instructor. The system is not just the sum of elements, but also dynamic relations among them as it is highlighted in Figure 1. The character of the relationships gives the impact of the single element. That is why it is important to search for the history of self-defence systems and for basic philosophical framework they are anchored. Self-defence systems are flexible; “they have the intention to survive”. Some systems are taught for many decades; some of the others are popular on a global scale. Vernacular systems are just local, usually developed in and for the close target group. Global systems are used worldwide in public, as *krav maga*, Reality Self Protection System and others.

#### Instructor

In instructor of self-defence, specialised education in the system and its internalisation is expected. He should be confident in the system and the relations among its elements. Except for personal assumptions, the instructor should develop pedagogical competence. The success of the instructor also depends on organisational conditions, the schedule, and material and the selection of students in training.

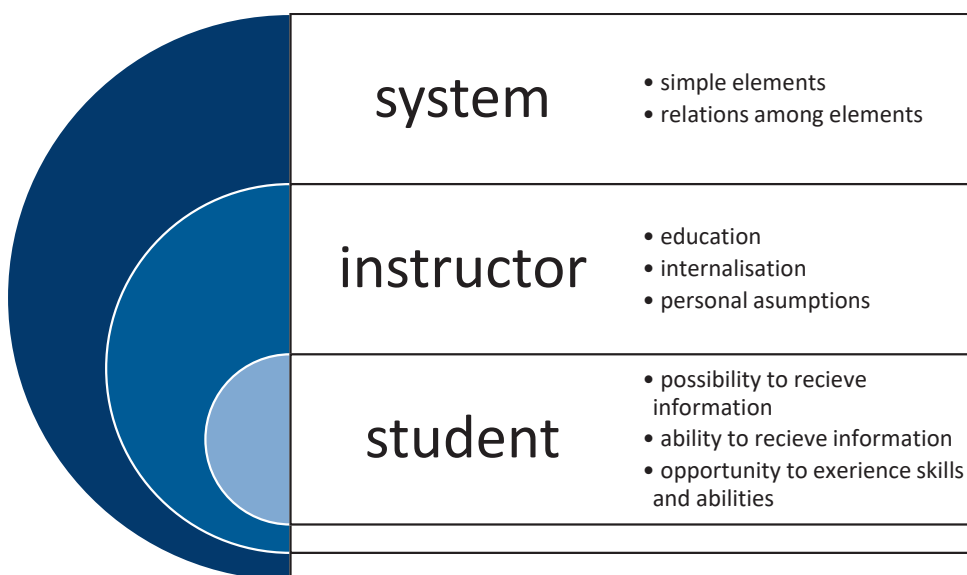
#### Student

The student should be motivated and be able to achieve the aim. When the organisational framework is optimal, the student can receive information easily. Knowledge should be tested to enable the student to experience skills and abilities.

#### Learning process in self-defence based on belief.

In Japanese martial arts, which are characterised by a high level of ritualisation [8], the practice of *kata* in the sense of the *shu-ha-ri* principles is a typical example of such thinking. *Shu-ha-ri* is the single learning process [9]. One is expected to undoubtedly and blindly repeat all the teacher asks in the first stage. *Kata* is the inner essence of technics and tactics, but their precise reproduction is to lead to the transfer of knowledge, even from one martial art to another, or from one culture to another one [10].

**Shu-ha-ri** – a term which describes the level of study in the martial arts and other traditional arts. *Shu* is the level in which the student loyally obeys the teacher's instructions. In the *ha* stage, the student develops his or her skills further through interaction with students of other schools. *Ri* is the level where the student can establish another style by all the previous knowledge and experience [24].



**Figure 1.** The structural framework in self-defence learning process: system-instructor-student.

A classic example of seeking basic, abstracted principles of struggle is the life story of the famous Japanese fencer Miyamoto Musashi (1584-1645). After many individual and army battles, he concludes that only personal experience led to the mastery of the art of strategy. He founded the basic principles of tactics and techniques in fencing, which should be valid for military leadership or empire administration [11].

Even techniques or tactics are the mater of change in martial arts, central concepts of the art are taught from teacher to student, from master to disciple closely in the particular school of martial art.

Belief-based self-defence training can be portrayed as a process of empowerment of that belief by later experience. At the ultimate stage, belief can be supported by unstructured evidence (I won, my techniques works). The proclamation of their own experience should lead students to believe that their instructor is competent to lead them. Of course – we do not deny the experience of all instructors.

#### ***Learning process in self-defence based on experience.***

In this approach, we include learning methods that are based on the personal experience of the instructor. In the world of self-defence, we encounter two approaches. First of all, instructors are former athletes. After years of training in combat sports, they experienced another aspect of combative reality. They find that their combat sports skills are not immediately applicable in self-defence, so they return to intuitive, primitive ways to resolve the conflict situation. Based on their initial experience, they internally formulate the principles of self-defence and later build and formally create the self-defence system. Some examples are given in Tony Blauer's S.P.E.A.R. system, Lee Morrison's Urban Combatives, or in Keysi Fighting Method. They based self-defence on natural reflexive movements, the fences. It is believed that fear induces attention and emotional changes. Commonly, threat-induced changes in attention are multidimensional and contribute to changes in postural control [12]. Reflex-based self-defence training is applied not only in personal self-defence but also in various security bodies [13]. Within the Dutch Police, more experienced officers are more critical towards the taught skills. Coincidentally, more experienced officers reported better performance but less

use of taught skills. The additional experience here is achieved by having encountered violence on duty or by practising martial arts [14]. Experiencing by real encounters or symbolic ones at training session lead to the characteristics of expert self-defence performance and the benefits, drawbacks and limitations of contact and pain in training activities [15].

Recently, modern self-defence systems have been more focused on solving model situations, or scenario training. The team of instructors creates a situation in an environment that draws the participant into the overall framework of the situation – environment, people, and the way of communication. The model situation is based on the premise that it is crucial to engage primarily in visual stimuli, then auditory and as a necessary result of the self-defence situation also tactile stimuli (and ominous stimuli too if possible) [16]. Then, the participant feels he or she is in a real situation even though he or she can rationally realise that the situation is only played, that it is not real. Model situations, however, are built to circumvent rational thinking and to create or restore patterns of behaviour that are archetypal, phylogenetically encoded. In scenario training, one can gain real-life experience.

#### ***Learning process in self-defence based on scientific evidence.***

That is the current and future approach. The need for appropriate information in an evidence-based approach has emerged quite recently in a seemingly long-lasting science – in medicine. Here, for the first time, the so-called evidence-based medicine (EBM) began as a new step in a practical approach to gathering and using information. The assumption here is the use of the Hanes pyramid 5S [17], which provides a hierarchical categorisation of evidence. From the simplest studies, through synthesis, synopsis, summaries to systems. We see here that study is comparable with methodologically well-described experience in self-defence. Experience is the lowest possible evidence of the pursued phenomenon. Another way of hierarchizing in EBM and the way weighing is the pyramid of evidence [18]. At the lowest level, there are individual isolated laboratory experiments and the highest level of systematic reviews and meta-analysis. Current attempts at self-defence training are far from reaching the most valuable and relevant information. There are very few scientific journals accepting self-defence research, and no one specialised in that.

## DISCUSSION

It is beyond question that at present when we have access to many information resources, it is inevitable that theoretical preparation should precede practical training. The practical problem is that even though the theory of self-defence is taught in the first step, there is no content corresponding to current scientific knowledge guaranteed.

This approach calls for close co-operation between security forces and the academic community. On the other hand, there is need to re-define self-defence, self-protection, and personal safety, as the way of physical defence from the attack, the way of protecting the body in an unexpected situation, and the way of being in safe both physically and mentally.

Health should be related to martial arts in the broader sense. That is why we need more research on the global scale dedicated to the science of martial arts, highlight health and utilitarian potential of martial arts, combat sports and arts of self-defence [19] with the increasing use of mixed assessments: “efficiency – ethical” [20].

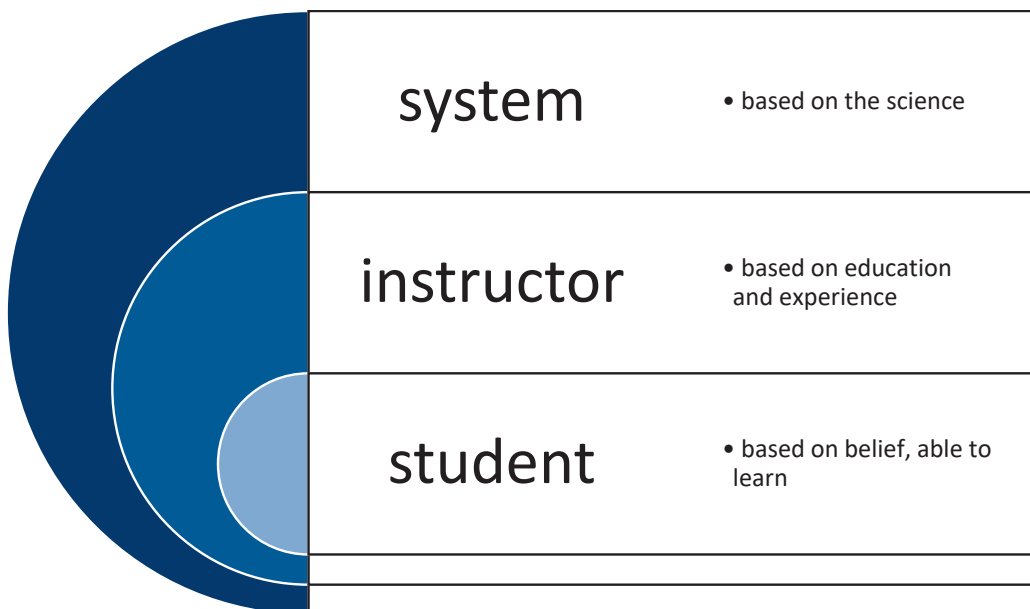
## CONCLUSIONS

We distinguish three approaches in self-defence that are based on: a) belief, b) experience and

c) evidence. An approach based on belief has historically been overcome in self-defence training. An approach based on experiences is currently at its peak. The next step in the evolution of learning self-defence is evidence-based training. It requires excellent organisation, the attention of academics and financial background. Unlike the previous two approaches, it is impossible to create a single self-defence system by one person or a narrow group of people. We emphasise the importance of compatibility of the self-defence system with the target group for which it is intended.

When coming back to the **system-instructor-student** interaction scheme (Figure 2), there is a system primarily based on scientific evidence that is superior to other elements. The instructor, who transfers the system to the students, has sufficient formal education in the system itself, but also personal experience with the environment in which students are prepared. Students themselves should be motivated and to believe in the system, the instructor, and the content of education in self-defence, because it is directly applicable in practice.

The evidence-based approach in self-defence should go beyond physical defence itself. Some researchers indicate that it is possible to assume, that the education of teachers of combat sports and martial arts in a too small degree takes into consideration the human preparation to widely comprehended self-defence, as well as problems



**Figure 2.** The structural, philosophical framework in self-defence.

of philosophical, ethical and methodical bases of training [21]. Innovative self-defence involves using verbal and/or behavioural methods and means along with available items in counter-acting each attack on any good of an individual (honour, dignity, life, health, property, and others). A defender submits his/her actions to the criteria of *prophylactic and therapeutic agonology*,

considering the most general directive of efficient leading of any struggles and also the universal assumption of self-defence training as absolutely paramount [20, 22]. In self-defence, not just effectiveness, but also moral attitude is important. That is why we should think about self-protection as well as about personal safety.

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