

# Identifying the value of martial arts on at risk youth

*Potential effects of kickboxing for youths in Arnhem Klarendal*



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**MSc thesis**

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# Identifying the value of martial arts on at-risk youth

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*Cover picture:*

*Picture of Kickboxing Arnhem (copyright with author)*

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## Abstract

Youths can perform risky behavior, which may jeopardize their future. Risk factors like social and physical environment, health and academic behaviors, and mental and somatic health are identified for youth. Martial arts could have an effect on these risk factors. Therefore, the objective of this thesis is to identify the value of practicing martial arts on at-risk youth. This study takes a single case study approach and carried out observations and semi-structured interviews at Kickboxing Arnhem. In total 23 stakeholders were interviewed about their perceptions towards kickboxing. This thesis reveals and explains the context of Kickboxing Arnhem and the value of kickboxing for at-risk youth. Results show that kickboxing has positive effects towards mental and somatic health and a number of health behaviors. According to interviews with kickboxers, parents and trainers and observations, kickboxing leads to improved self-confidence, improved self-regulation and increased respect. Besides, it was mentioned that kickboxing improved the shape and strength of youth, which plays an important part in building their mental and somatic health. Additionally, kickboxers and parents appreciate the tips of trainers about healthy nutritional behavior and seem to actively process this information. Furthermore, kickboxers from the competitive group pay attention towards smoking, alcohol and drug use. No effects have been found on the social and physical environment, since none of the interviewed stakeholders live in Arnhem Klarendal and their home environment is very stable. Kickboxers identify themselves as martial art participants. Identification to a group leads to improved self-esteem for youth. Besides, Kickboxing Arnhem seems to be a place where different classes, religions and races become one network. The trainers provide social support to youth, which can lead to improved self-confidence and can give constructive feedback on several health behavior. This could be crucial for the outcomes since they have a lot of influence on youth. This study is part of a growing body of research on the value of martial arts for youth and will contribute to a possible intervention for at-risk youth.

**Keywords:** Risk factors, youth, martial arts, kickboxing, effects.

## Acknowledgements

First of all I would like to thank my supervisors Bob Mulder and Marco Mensink for their advice and guidance through this process. Bob, it was great working with you. The time you invested in my work was very valuable. You challenged me and thereby getting the best out of me. Marco, thank you for criticizing my work.

Furthermore, I would like to thank Kenniscentrum Sport for the opportunity to work on a very interesting project. It was an educational experience to learn more about the approach of projects at a knowledge institute. In special, I would like to thank Marian ter Haar, Rebecca Beck, Dorien van Dijk en Minke van der Kooi for their advice and support.

Most of all, I would like to thank the trainers of Kickboxing Arnhem, the kickboxers and their parents for their time and corporation. Thank you for the inspirational interviews. I am very happy that I could experience kickboxing and its value. In special, I would like to thank Fred and Krista for opening up Klarendal for this thesis research, their guidance and advice.

Lastly, I would like to thank Vera, whom gave me a lot of tips on writing a thesis. Beforehand I would not have expected that I would enjoy it so much. It was a great learning experience.

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# Abbreviations, Figures and Tables

## List of abbreviations

Table 1. List of abbreviations used in this thesis.

Abbreviation	Original
ASAN	All Style Associatie Nederland
IMAF	Internal Martial Arts Federation Nederland
KNKF	Koninklijke Nederlandse Krachtsport en Fitnessbond
KNVB	Koninklijke Nederlandse Voetbalbond
MFC	Multi Functional Centre
NIVM	Nederlands Instituut voor Vechtsport en Maatschappij
NOVER	Nederlandse Organisatie voor Erkende Ringsporten
STDs	Sexually transmitted diseases

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## 1. Introduction

In the Netherlands the amount of violent crimes under youth, in the ages from 12 to 18 years old, has dramatically increased over the last ten years. From 2005-2015, the violent crimes registered by Bureau Halt rose from almost none to 660. (CBS, 2016a). Furthermore, the percentage of youths who use alcohol and drugs stays too high in the Netherlands. In 2011 69,8% of the youths from 12 to 19 years old used alcohol. Furthermore, 17,4% of this group used the soft drug cannabis, whereas in the category hard drugs 3,5% of the youths used drugs like XTC or cocaine (CBS, 2012). This high amount of alcohol and drug users can be problematic, since it is commonly known that alcohol- and drug use have negative effects on the development of the brain, especially for youths (e.g. Squeglia, Jacobus & Tapert, 2014; Tapert, Granholm, Leedy & Brown, 2002). In addition, youths have more difficulties with making well-considered decisions and oversee the consequences of their choices, because their brain develops from age 14 to 23 years old (Crone, 2009). As a result, youth can perform risky behavior that may jeopardize their future (Capuzzi & Gross, 2014).

Capuzzi and Gross (2014) labeled youth who perform risky behavior as at risk. Therefore, henceforth this group is labeled as at-risk youth. At-risk youth have been described in the literature in five ways, namely dropout from school and job (Capuzzi & Gross, 2014; DiClemente, Hansen, & Ponton, 2013), health risk behaviors (Brenner et al., 2013), mental health risk (Capuzzi & Gross, 2014), socioeconomically disadvantage (DiClemente et al., 2013) and home situation (Capuzzi & Gross, 2014). Having a closer look at these five factors, it can be seen that different factors overlap. Therefore, in this study risk factors for youths are categorized into social and physical environment, health and academic behaviors, and mental and somatic health.

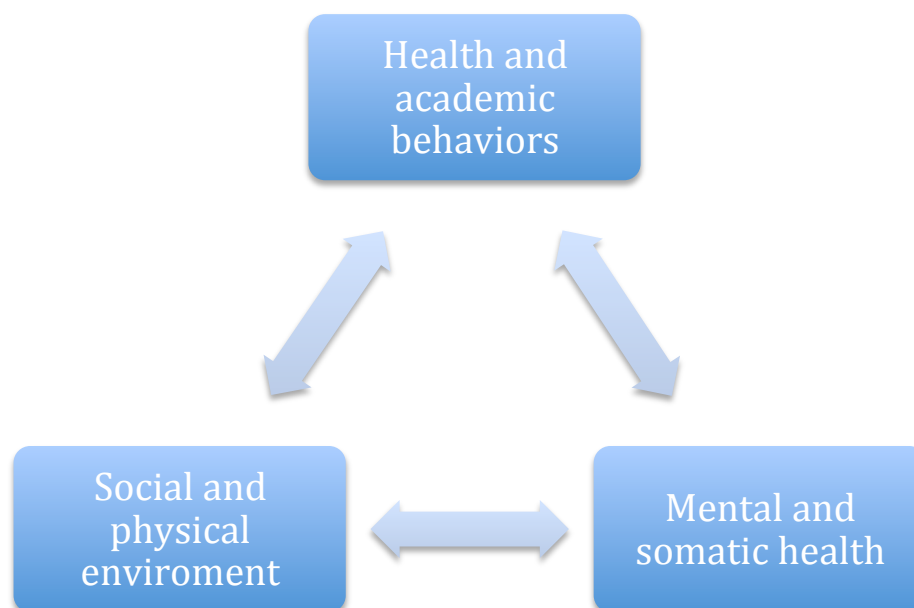
First of all, social and physical environment factors are indicators for at-risk youth. Socioeconomically disadvantage seems to be a general predictor of at-risk youths. For example, research of Garnier, Stein and Jacobs (1997) found that socioeconomic status plays an important role in dropout from school. Besides, in health risk factors and mental health, such as pregnancy, socioeconomic status is an indicator for being at-risk as well (Furstenberg & Hughes, 1995). Another risk factor is the home situation. For example, it is in today's society hard for parents to understand their children and the factors that affect them. At-risk behavior of youth for home situation can be described as avoid taking part in family activities, failing to obey rules or directives, being secretive about friend and activities, not



communicating with parents or siblings, displaying values and attitudes different from family (Capuzzi and Gross, 2014). In addition, divorce of parents can be considered as a risk factor (Ince, van Yperen & Valkestijn, 2013).

Secondly, health and academic behaviors are indicators for at-risk youth. At-risk health behaviors can be described as violence and unintentional injuries, sexual behaviors that lead to sexually transmitted diseases (STDs; for example HIV/ AIDS) and unintended pregnancy, use of alcohol and other drugs, use of tobacco, physical inactivity and unhealthy dietary behaviors (Brener et al., 2013; Capuzzi & Gross, 2014). Performing one of these behaviors can be indicators for at-risk youth. Besides, another risk factor for this category is dropout from school. Multiple researchers (e.g. Capuzzi and Gross, 2014) described several risk factors for dropping out of school. These risk factors are among others, tardiness, poor grades, failing one or more grades and rebellious attitudes towards the school authority.

Lastly, mental and somatic health is an indicator for at-risk youth. Nowadays an increasing number of youths go to a mental health agency for the problems they face. Risk factors for mental health are amongst others stealing, truancy and cruelty to animals (Capuzzi & Gross, 2014). These risk factors are often connected to psychological factors such as self-esteem, self-confidence and self-regulation (Capuzzi & Gross, 2014; Vertonghen & Theeboom, 2010). The risk factors social and physical environment, health and academic behaviors and mental and somatic health are connected to each other. This is visualized in Figure 1.



**Figure 1. The relations between the three risk factors of at-risk youth**

In Figure 1 can be seen that social and physical environmental risk factors can have a direct influence on mental and somatic health. Besides, it is also possible that social and physical environmental risk factors have an indirect influence on mental and somatic health, since health and academic behaviors are a mediator. Thus, the social and physical environment influences the health and academic behaviors, which in turn affect the mental and somatic health. As one can see, the risk factors are related to each other.

### **1.1. Unhealthy dietary behaviors**

One particular interesting at risk behavior associated with at risk health factors has been encountered, namely unhealthy dietary behaviors. It is worldwide known that unhealthy dietary behaviors could lead to overweight. In 2015 12,1% of the youths between 4 and 20 years old were overweight in the Netherlands (CBS, 2016b). In the age group above 20 these percentages are even much higher. As a result, overweight could have negative effects on health. For instance, it leads to increased health problems such as cardiovascular diseases, diabetes mellitus type 2, osteoarthritis and cancer. Eventually, overweight leads to reduced life expectancies (Haslam & James, 2005).

Besides unhealthy dietary behaviors, several other factors cause overweight. According to Wright and Aronne (2012) sleep dept, drug-induced weight gain, weight gain because of quitting cigarette smoking and a low amount of physical activity are contributing factors to get overweight. However, Haslam and James (2005) discuss the principle of a higher energy intake combined with a lower energy expenditure results in overweight. Main causes of this problem are overeating, or unhealthy dietary behaviors, which results in increased energy intake or/and a sedentary (inactive) lifestyle, which results in decreased energy expenditure (Haslam & James, 2005).

However, it is not clear if the two factors proposed in the study of Haslam and James (2005) could influence each other. Therefore, this life science topic will be more elaborated. Hence, the question arise, are youth who have an active lifestyle more aware of a healthy dietary lifestyle? Therefore, the influence of physical activity, in particular martial arts, on the awareness of a better lifestyle and healthy eating behavior will be investigated.

### **1.2. Martial arts as possible prevention**

Dealing with risk factors has been done in several ways, for example by prevention. Prevention is based on awareness of risk factors, which have been identified as at-risk

behaviors (Capuzzi & Gross, 2014; see Figure 1). An interesting way of prevention to approach at-risk youth is via martial arts. Martial arts have become increasingly popular among youth over the last decades. It is especially popular for youth with the age of 12 to 20 years old. Breedveld, Kamphuis and Tiessen-Raaphorst (2008) found that in the Netherlands approximately 55% of the martial arts practitioners in club setting was youth in age ranging from 12 to 20 years old. Thereby, martial arts are among the ten most practiced sports for youth (12-18 years old) in the Netherlands (Mullier, 2017). According to CBS (2015), 1350 martial arts schools have an average amount of 77 members. The last years, martial arts have grown in popularity and it has potential for more growth. Especially the group of youths who practice martial arts is relatively high. Therefore, martial arts are interesting to investigate among at-risk youth.

Martial arts are associated with a lot of positive behavioral outcomes. Practicing martial arts leads to improvement of social psychological outcomes such as confidence, aggression tolerance and prosocial behavior (Elling and Wisse, 2010). Besides, it really gives them the feeling they belong to a group and it can give them a positive identity. Trainers and parents often endorse this opinion (Elling & Wisse, 2010). Hence, it seems that martial arts can have an influence on the positive development of juveniles. This may imply that, especially for at-risk youth, martial arts can have a very important role in the increase of future opportunities and the contribution to society.

Unfortunately, examples of the opposite exist as well. For instance, in a number of recent terrorist attacks youth with a background in martial arts were associated or even the offenders (Ter Haar & Beck, 2016). In addition, other 'regular' criminal behavior is often associated with martial arts (Gomperts, 2014). Furthermore, research of Endresen and Olweus (2005) found that martial arts leads to increased antisocial behavior in youth. This could imply that either martial arts stimulate negative behavior under youth or that specific youth, who are already performing negative behavior, are more attracted towards martial arts.

Based on these findings the subject of martial arts became a topic of interest among social workers, pedagogues and researchers. Despite this interest the topic of martial arts has been relatively unexplored in literature. As mentioned, research is contradictory, where some of the studies claim that martial arts are beneficial for educational opportunities (Theeboom and Knop, 1999) and social psychological behavior (e.g. Abrahams, 2004; Elling & Wisse, 2010) for youth. Other researchers such as Pearn (1998) claim that martial arts are not beneficial at all for at-risk youth because of ethical and medical grounds.

Furthermore, only a limited number of literature reviews have been done until now (e.g. Cox, 1993; Henning, 1999; Vertonghen & Theeboom, 2010). The most recent is the one of Vertonghen and Theeboom (2010), who researched the social psychological outcomes of practicing martial arts. The review consists of two parts. The first part is about the possible effects on the martial arts practitioners, where on the one hand is looked at personality traits and on the other hand aggression. The second part is about the limitations of the included papers (Vertonghen & Theeboom, 2010). Vertonghen and Theeboom (2010) found positive effects on social psychological outcomes, such as a higher level of self-regulation and a decreased level of violence, are likely, however strong evidence is lacking regarding these social psychological outcomes of martial arts practice. This is mostly due to methodological and conceptual limitations of the included studies.

Although Vertonghen and Theeboom (2010) were not been able to draw overall strong conclusions, it seems from the literature that martial arts rather have a positive effect on martial arts participants. Therefore, the objective of this study is to understand the role of martial arts for at-risk youth. The research question for this study is: *What is the value of practicing martial arts on at-risk youth?*

## 2. Theoretical framework

The aim of this section is to discuss the different behaviors of martial arts participants, which form the analytical framework for this thesis. In the problem description the individual risk behaviors are explained. In the next section these concepts are further elaborated. Afterwards the group behaviors are discussed to provide a clearer view towards the problem.

### 2.1. Individual behaviors

As mentioned, at-risk youth face multiple risk factors. This makes it a complex situation. However, risky behavior is preventable (DiClemente et al., 2013). Risk factors can act as moderators and mediators. The direct effects have a predictor variable, which directly leads to an outcome variable. A moderator changes the effect of a cause-and-effect relation between two variables (Baloyi, Van Waveren & Chan, 2014). A mediator is a variable that stands between the cause-and-effect relation, therefore it can better explain the effects of the predictor variable. Thereby, a mediator makes the relation stronger (Baloyi et al., 2014).

Figure 2 shows both direct effects and mediator effects. Martial arts can act as a moderator between the three risk factors. However, the place(s) where martial arts could intervene in Figure 2 is at this moment not clear. Figure 2 does not show a cause-and-effect relationship, but more a connection of relationships.

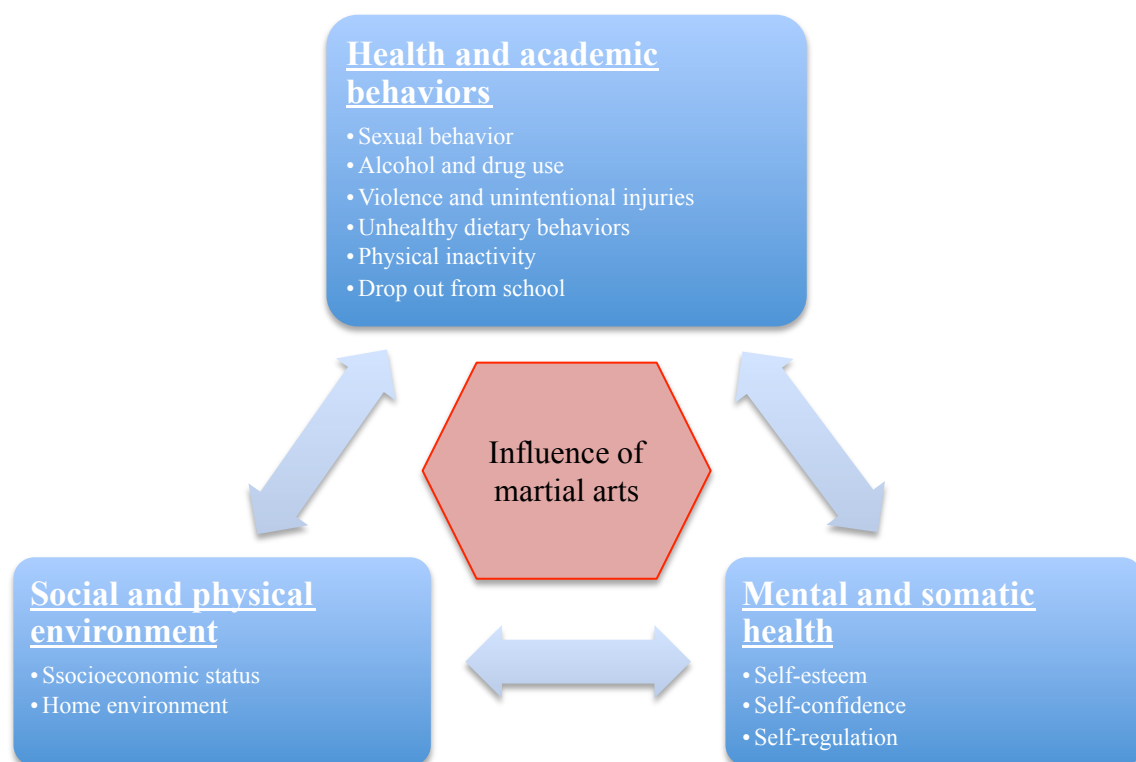


Figure 2. Overview of the relations between the three risk factors of at-risk youth.

Multiple factors influence each other, therefore there is no single cause-and-effect relationship. The results of the literature review of Vertonghen and Theeboom (2010) show positive effects among martial arts for psychological factors like self-esteem, self-confidence and self-regulation. In Figure 2 these factors were also mentioned as consequences. It appears that behavioral outcomes like self-esteem, self-confidence and self-regulation are important for at-risk youth.

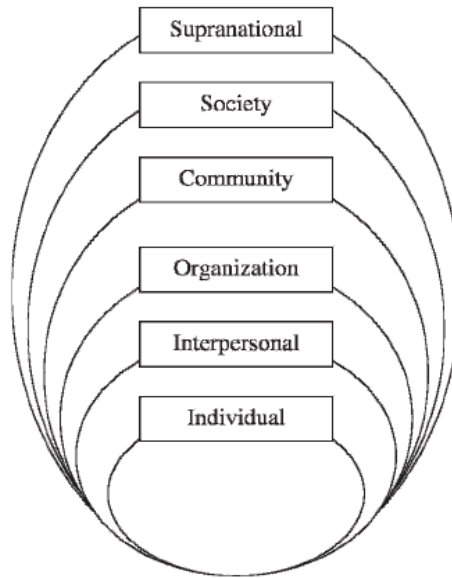
Self-esteem is how people feel about themselves, these can be positive or negative evaluations (Smith & Mackie, 2007). Low self-esteem could lead to depression, whereas too much self-esteem could lead narcissism. Self-esteem can be an influential predictor of several outcomes, such as happiness (Baumeister, Campbell, Krueger & Vohs, 2003), satisfaction in relationships and marriage, criminal behavior (Orth & Robins, 2014), academic achievement (Marsh, 1990) and unhealthy behaviors (McGee & Williams, 2000). The last four factors are identified as at-risk behaviors, therefore self-esteem is an interesting predictor.

Self-confidence is the ability to believe in oneself. This can improve an individual's motivation to undertake actions and seizing opportunities. Too much confidence can also lead to arrogant behavior or stumbling into unforeseen obstacles (Bénabou & Tirole, 2005). Two things that contribute towards self-confidence are self-esteem, which is described in the paragraph above, and self-efficacy. Self-efficacy refers in its turn to the extent in which an individual beliefs to reach their goals and complete their tasks (Ormrod, 2006).

Self-regulation, or self-control, is the ability of an individual to control one's emotions, desires and behavior (Baumeister, Heatherton & Tice, 1994). Self-control is important in the behavior of humans to achieve goals, to avoid impulses and to deal with emotions (Timpano & Schmidt, 2013). This can have positive outcomes for the individual and society, such as mental health, interpersonal relationships, popularity and school and work performance (Baumeister, Heatherton & Tice, 1994; Baumeister & Vohs, 2007).

## **2.2. Group behaviors**

Behaviors are not only influenced by individual factors, as discussed in Figure 2 The social and physical environment also plays a role in behavior of at-risk youth. Figure 3 shows how the individual is part of a larger entity. In the next three subsections the influence of groups and networks on behavior is discussed according to three social psychological theories.



**Figure 3. Schematic of the ecological approach in health promotion programs, adapted from Eldredge, Parcel, Kok and Gottlieb (2011).**

### **2.2.1. Social Identity Theory**

It is widely considered that among others, people's decisions, thoughts and behavior are influenced by their social environment (Ajzen, 1991). People often operate in groups and try to identify themselves with those groups. Groups give people a social identity, a feeling of belonging to the social world. The social identity of people describes the self-concepts of individuals based upon their perceived membership (Turner & Oakes, 1986). The social identity originates from Tajfel (1982) and Turner (1975) and was introduced in a way to explain intergroup behavior, known as the social identity theory (e.g. Tajfel & Turner, 1979; Turner & Tajfel, 1986).

Tajfel and Turner (1979) proposed that the social identity theory includes three mental processes, which are involved in evaluating in-groups and out-groups, namely social categorization, social identification and social comparison. In addition, these processes take place in this particular order. The first stage is social categorization. People like to categorize objects in order to make it more easily to identify and more understandable. The same accounts for categorizing people according to what they act upon. For example, in the Netherlands Geert Wilders likes to refer to Dutch people and 'foreign' people in his speeches. By doing this Geert Wilders creates two groups (categories) of people, the in-group or 'us' and the out-group or 'them'. When it is possible to assign people to one of the two categories, it will tell something about those people. Those people behave according to their group's

rules and norms in order to maintain the group identity. In addition, as an individual it is possible to belong to many different groups (Tajfel & Turner, 1979).

The second stage is social identification. As already explained in the social categorization, people behave according to their group's rules and norms. People identify themselves to a certain group and adopt the identity of the group they belong to. For example, if you categorize yourself as a student, it is believed that you will adopt the identity of a student. Thus, you will start to act like students conform to the rules and norms of students, as you believe they act. As a result your self-esteem will become bound up with group membership (Tajfel & Turner, 1979).

The last stage is social comparison. After people have categorized themselves as part of a group (social categorization) and have identified themselves with that group (social identification), one enters the last stage. In this stage people tend to compare the different groups. As the social identity theory hypothesizes, people compare in-groups favorably with out-groups to seek a positive social identity (Turner & Tajfel, 1986). Comparing in-groups to out groups can lead to prejudice and discrimination (Tajfel & Turner, 1979).

The social identity theory could be applicable to at-risk youth. Several questions raise, for example what kind of social categorization is present? Thus, what are the in-group and out-group of youths who practice martial arts and youths who practice other sports? For example, do martial arts participants believe they are different from other groups? Do they have a negative image about other groups of athletes? Besides, what are the in-group and out-group within the pupils who perform martial arts?

### **2.2.2. Social support**

Social networks have several social functions for people. One of those functions is social support. Social support is a term which has multiple different conceptual definitions (Sarason, 2014). This study will not provide all those different formulations, but it will provide one definition of social support which is considered as most accurate for this work. Social support is maybe one of the most important functions of relationships, because it refers to the idea that other people that will care for you (Heaney & Israel, 2008). The same accounts for social network. Social network 'refers to linkages between people that may or may not provide social support and that may serve functions other than providing support' (Heaney & Israel, 2008, p. 190).

Social support can be categorized and measured in four different types of supportive behavior (House, 1981). These four types are emotional support, which encompass empathy,



trust, love and caring. Secondly, instrumental support, which encompass services and tangible aid that are direct and concrete ways to assist someone in need. Thirdly, informational support, which encompass suggestions, advices and information that can be used to address problems. Lastly, appraisal support, which encompass constructive feedback and affirmation. This is useful for self-evaluation purposes (House, 1981). The intention of social support is always to be helpful.

Martial arts could provide at-risk youth more social support in their social network. Martial arts can work as social support, because the relation between martial arts practitioners and their coach could be described as trust and careful. In addition, it could be that martial arts give instrumental support to directly help them with their self-confidence, whereas informational support could come from their martial arts coach. Furthermore, do martial arts coaches give appraisal support to their pupils?

### **2.2.3. Social capital**

Another function of social networks is social capital. Putnam (2000) defines in his book 'Bowling alone: The collapse and revival of American community' that physical capital is referring to physical objects, whereas human capital is referring to properties of individuals. The social capital refers in its turn to connections among individuals, social networks and the norms of trustworthiness and reciprocity that arise from them. Therefore, social capital is generally defined as the links between and within social networks (Patulny & Svendsen, 2007). Two different types of social capital are identified, bonding and bridging (Putnam, 2000).

Bonding means that people bond to others who have the same view as they have. This group encompasses people from the same age, same religion, same race and so on and can be seen as a network (Putman, 2000). For example, the Dutch people who practice martial arts are considered as bonding social groups. The same for the Moroccan-Dutch people who practice martial arts, they are considered as a bonding social group as well. Hence, martial arts practitioners are considered as a network. However, also within martial arts practitioners can be networks.

Bridging means that people with different views bond with each other (Putman, 2000). Thus, 'bridging refers to those networks that make connections across heterogeneous groups of people (e.g., hobby clubs, student government, and service organizations)—bridging divisions that usually separate society, such as class, race, or religion' (Buettner & Debies-Carl, 2012, p. 605). This is considered as the most important one of the two different

types of social capital, because by bridging it is possible to create peaceful societies. Furthermore, it seems logic that bonding is easier to accomplish than bridging between different networks.

As mentioned, Dutch people who practice martial arts could bond and/or immigrant martial arts practitioners could bond. Additionally, it could be that youth from the same age bond more often. Also it is possible that groups exist between higher and lower educated martial arts participants. Those groups could bridge in martial arts schools and become one network. Martial arts schools could be a place where different classes, races and religions become one network.

### **2.3. Framework for analysis**

To summarize, risk factors for youths are categorized as mental and somatic health, social and physical environment and health and academic behaviors. Beside it, in Figure 3 can be seen that group behaviors of people also have an influence. The kickboxers are the individuals in this group behavior. As described, youths mutually operate in groups and try to identify themselves with those groups. Youths could have social support from their trainers, but also from their fellow kickboxers or parents. This can be seen as interpersonal (Figure 3). Lastly, Kickboxing Arnhem can be seen as the organization. The organization is part of a community, which is Arnhem Klarendal in this case. The organization and community could have social support or social capital. These theories gain inside to the possible processes which underlie the effects. In order to answer the research question stated in section 1.2, sub questions need to be formulated. As a result, the following sub-questions were formulated:

- What are the effects of martial arts on the mental and somatic health according to stakeholder perceptions?
- What are the effects of martial arts on the social and physical environment according to stakeholder perceptions?
- What are the effects of martial arts on the health and academic behaviors according to stakeholder perceptions?
- How can potential effects of martial arts on at-risk youth be explained, using social psychological theories?

### **3. Methodology**

This thesis entailed a single case study conducted on the basis of document analysis, active observations and semi-structured interviews. Firstly, background information about martial arts in the Netherlands is provided to get a better overview (3.1). In section 3.2 the case study approach is identified and more elaborated. In the last section (3.3) the methods used to gather the data collection will be explained.

#### **3.1. Background information of martial arts in the Netherlands**

As mentioned in the problem statement, martial arts are among the most played sports in the Netherlands. Martial arts is organized in a complex way in contrast to other sports, such as soccer. In the Netherlands, soccer has a national organization which is called the KNVB (Koninklijke Nederlandse Voetbalbond), while no national covering organization for martial arts exist. Instead, martial arts have multiple organizations for different disciplines. For example, the KNKF (Koninklijke Nederlandse Krachtsport en Fitnessbond) covers sports as powerlifting, bodybuilding, fitness, sumo and wrestling and the IMAF (Internal Martial Arts Federation Nederland) is covering sports as judo, karate and aikijutsu. In addition, other associations such as ASAN (All Style Associatie Nederland) and NOVER (Nederlandse Organisatie voor Erkende Ringsporten) have also interests with martial arts. Because of these multiple different organizations for the martial arts, it can be hard to regulate on a top-down level.

The approach towards martial arts can influence the choice for the type of martial arts, for example whether one starts judo or kickboxing. Martial arts can be divided into three different approaches, namely the traditional approach, the competitive approach and the efficiency approach (Theeboom, 2001). In the traditional approach oneness between physical and mental aspects are central. Hereby, the development of fighting techniques and spirituality are most valuable, because in general it is connected to positive social psychological effects of practitioners (Trulson, 1986). Trainers of the traditional approach have a more pedagogical function. Normally they do not interfere in their pupils' private life, unless it has a direct influence on their functioning during practice (Elling & Wisse, 2010).

The second approach, the competitive approach, is considered as a sports activity, which has positive effects on physical, mental and social effects of the practitioners (Theeboom, 2001). Practitioners aim for a better performance and compare themselves with other practitioners. It is possible to fight other people for competition, but it is restricted to certain rules (Theeboom, 2001).

The third approach is the efficiency approach. Practitioners of the efficiency approach start this approach, because of self-defense. Within this approach performance and adequate resilience are central (Theeboom, 2001). However, these are more analytical differences, because in practice one can see a lot of approaches which are mixed. Thus, within a martial arts school one can find influences from the traditional approach and influences of the sportive approach (Elling & Wisse, 2010).

Moreover, martial arts cover a lot of different disciplines, which can be divided into two categories, 'soft' martial arts and 'hard' martial arts. The soft techniques of martial arts focuses on deflecting the attacker's force (Elling & Wisse, 2010). The attacker will be disadvantaged while the defender exerts a minimal force. They use the momentum against the attacker. It is possible to use these techniques as offense, but it is more likely that it is used as defense and counter offense (Elling & Wisse, 2010). Aikido, jujutsu and judo are examples of martial arts which make use of the soft technique. The hard technique of martial arts is focusing more on direct hits. This can be used in offense, defense and counter-offense. The hard technique uses muscles more than soft techniques do. Examples of hard techniques are a kickboxer who aims to break an attacker's leg with a low kick or a karate block with the intention to halt or break the attacker's arm (Elling & Wisse, 2010).

Furthermore, a martial arts school can get a specific quality label, called Fight Right Keurmerk. NIVM (Nederlands Instituut voor Vechtsport en Maatschappij; n.d. a) is the Dutch Institute for Martial Arts and Society, they guarantee and improve the quality of martial arts schools. For that reason they came up with the Fight Right Keurmerk, which underlines and guarantees that martial arts schools and trainers are responsible, pedagogical and safe towards martial arts. The Fight Right Keurmerk can be obtained when a martial arts school meet two requirements. First of all a martial arts school has to get a positive advice report, criteria for this advice report differ from accommodation to safety to social involvement of the club to the level of pedagogic and didactic skills. Secondly, the martial arts school needs at least one trainer who is registered in the quality register (NIVM, 2016). An advantage for martial arts schools who have such a quality label will get among other things guidance with local and national fund- and subsidy requests (NIVM, 2016).

### 3.2. Case study

In this section the case study approach will be explained. Afterwards, this single case study will be translated to Arnhem Klarendal. This is the specific place where the study is conducted.

### **3.2.1. Single case study**

This research explores the effect of martial arts on at-risk youth, whereby the individual and group behaviors of at-risk youth are analyzed. A case study method is used which aims to explore and describe a particular setting to promote an understanding (Cousin, 2005). Besides, case study research is mainly focused on persons, groups or situations (Cousin, 2005). The case study method is performed with a very limited number of individuals as subject or in a small geographical area (Zainal, 2007). Therefore, this thesis research fits this study objective, because the focus is on a small group of individuals within a small geographical area.

This study takes a single case study approach. Single case studies are usually adopted when no other cases are available for replication, for example the effects of a tsunami (Zainal, 2007). This study is place specific, Arnhem Klarendal, and is part of a larger study from Kenniscentrum sport. In total seven single case studies will be performed in particular areas. Afterwards it is possible to compare the results of all the case studies in a multiple case study.

Case study designs differ in levels of analysis, scope and aims (Eisenhardt, 1989). Yin (1984) described three categories, namely exploratory, descriptive and explanatory case studies. This study takes an exploratory case study. The main reason to adopt an exploratory case study is because of the different outcomes in the literature of the effect of martial arts for at-risk youth. An exploratory case study use general questions to open up the door for further research (Zainal, 2007).

### **3.2.2. Kickboxing Arnhem, fight and power center**

After having explained the single case study approach, this is translated towards the existing case, Kickboxing Arnhem in Arnhem Klarendal. The socioeconomic status is a risk factor for youth, therefore a martial arts school in such area is picked. For that reason, Arnhem Klarendal, a particular district in Arnhem that is known for their low socioeconomic status and high unemployment (Mens en Samenleving, 2009), is an interesting example. Besides that, Klarendal has been often in the news with violent crimes of youth (e.g. Oozoo, 2015). These negative news items confirm the reputation of Klarendal.

Because of these risk factors, Klarendal is an interesting place to look at the effects of martial arts on at-risk youth. In this district, kickboxing school Kickboxing Arnhem has been selected to elaborate on. It is possible to do kickboxing in a mix of the traditional approach and the competitive approach at Kickboxing Arnhem. For both approaches it is possible to

practice kickboxing either on recreational or achievement level. Besides kickboxing it is also possible to do MMA, Krav Maga or private sessions of boxing or Muay Thai. Moreover, Kickboxing Arnhem has a Fight Right Keurmeurk.

The main target group for this case is children and adolescent, defined as youth between 12 and 21 years old, because as mentioned the development of the brain in humans is at the age of 14 to 23 years old. In this phase, youth have among others difficulties to make well-considered decisions and oversee the consequences of their choices (Crone, 2009). Besides, youths are more interesting to research, because in the adolescence period there is a rapid development of physical, sociocultural, psychological and cognitive changes (DiClemente et al., 2013). This phase is characterized by surmount challenges and establishing autonomy and identity (DiClemente et al., 2013).

This exploratory single case study will investigate the effects of martial arts on at-risk youth. In general, case studies can use various data collection methods to gather information, for example, interviews, questionnaires and observations (Eisenhardt, 1989). Results may be qualitative and/or quantitative, however this study will use a qualitative analysis by performing a document analysis, (participatory) observations and semi-structured interviews. In the next sections these methods will be described in more detail.

### **3.3. Data collection**

After having set the directions for a case study methodology based on several theories, the methods applied to this methodology will be outlined in this section. Data is obtained using the following methods: a document analysis, observations and semi-structured interviews.

#### **3.3.1. Document analysis**

A document analysis has been conducted on two dimensions to gather theoretical and empirical literature. First of all, an extended literature part will contain researches about the life science topic, unhealthy nutritional behaviors. Different types of literature are covered in this analysis, such as primary, secondary, tertiary literature (Schembri, 2007). This will give some more support to the problem statement. Secondly, documents from the municipality of Arnhem and Kickboxing Arnhem about martial arts will be analyzed, both published and unpublished documents will be included. The municipality of Arnhem or Kickboxing Arnhem might not have documents about the influence of the martial arts school in the environment.

However, the municipality of Arnhem does not have any documents of Kickboxing Arnhem. Via the municipality I got connected to Pactum Rijnside, which are a youth and

parenting help organization. They do not have documents as well even though they have a contract with NIVM (n.d. b). Kickboxing Arnhem at their turn does not have any documents about the gym itself. Only the NIVM does have research, in the period from 2008 to 2010, where Kickboxing Arnhem was one of the nine included locations (Buysse & Duijvestijn, 2011). It is about martial arts in youth care, where KNKF developed two favorable martial arts approaches to improve the self-image and aggression regulation of youth. Martial arts seem to have a positive effect on the self-image and aggression regulation of youth. However, this research found no specific outcomes for Arnhem. In addition, the general outcomes of this research are not strong due to large differences in results, approach, methodology and target group of the nine KNKF-locations (Buysse & Duijvestijn, 2011). Therefore, no conclusions can be drawn out of this second part of the document analysis.

### **3.3.2. (Participatory) observations**

The participatory observations serve three goals. First of all, observations will focus on the interaction between the martial arts practitioners and their coach. What kind of role does the coach have for the practitioners and what kind of language does the coach use? Secondly, observations will focus at the mutual relation of the martial arts practitioners. Lastly, the origin of martial arts practitioners, the use of language of practitioners and the group behavior will be observed.

This will be either moderate participation or active participation. Moderate participation means that the observer is present in the kickboxing school, the scene of action, but is only observing or occasionally interaction with people in it. Active participation means that the observer engages in almost everything the others are doing (DeWalt & DeWalt, 2011). An advantage of active observations is that participating during a training session can help to get more involved into the social world of martial arts (Mason, 2002). However, this depends on the level of the martial arts participants and the target group. As said, this will be in consultation with the martial arts coach.

In the end, a mix of observations was performed. It will form the basis to get a better insight and experience of martial arts. These observations will help to experience the social setting, the conversations martial arts practitioners have, the use of language and the behavior of martial arts practitioners during a training session (Mason, 2002). The best way to observe these martial arts practitioners is during a natural setting, therefore I will perform active observations at the advanced youth group (12-16 years old). Four other groups, namely the



advanced children group (8-12), the competitive group (16+), the beginner recreation group (16+) and the advanced recreation group (16+) will be moderate observed.

After the observations, the martial arts practitioners will be randomly chosen out of the participants. The only two criteria used are that participants should be at least in the advanced youth group and under the age of 21. From the randomly chosen kickboxers, their parents will also be randomly asked for an interview. Besides, the trainers of these participants will be asked for an interview. Above all, it is possible for practitioners to decline such an interview.

### **3.3.3. Semi-structured interviews**

In addition to observations, qualitative, semi-structured interviews will be conducted. Semi-structured interviews give the interviewer flexibility since the detailed structure can be filled in during the interview. In this way it is easier to adapt to the given answers. The interviewer knows what topics and questions need to be covered, only the information derived from the interviews can vary between participants (Miles & Gilbert, 2005).

Structured interviews are, in contrast to semi-structured interviews, a predetermined list of the same questions for each interviewee which is always the same. This is considered as less interesting, since different backgrounds and interests of interviewees are not taken into account (Miles & Gilbert, 2005). Therefore, the interview structure and fixed questions will be adapted according to the expertise and the level of education of interviewees.

It is very important that the interviewer keeps a few factors into consideration. The interviewer needs to fully prepare the semi-structured interview(s). Besides, the interviewer should conduct a thorough literature research to be well informed (Miles & Gilbert, 2005). Afterwards, it is possible to formulate questions using enough background knowledge in the subject area. It is important to keep these questions brief in order to keep the schedule clarifying. In addition, the order of questions should be logical and have a natural flow (Miles & Gilbert, 2005).

Moreover, the interviewer needs to decide whom to recruit for an interview, contact the potential interviewees, decide about the location and transcribe the data (Longhurst, 2009). For the interviews several stakeholders were approached: the gym owner, the martial art trainer(s)/coach(es), neighborhood coach, martial arts practitioners and parents of the interviewed martial arts practitioners (Table 3). The contact with those people will be made via face-to-face appointments, telephone or e-mail. After the appointment is confirmed, the location can be set. This will be in dialogue with the interviewee. Stakeholder will be asked



for permission to record the interview before the interview starts. The transcription of the data will be in the interview afterwards.

**Table 3. Overview of the interviewees.**

<b>Interviewee</b>	<b>Number</b>
Gym owner (also trainer/coach)	1
Martial arts trainer/coach	2
Neighborhood coach	1
Martial arts practitioners	13
Parents of the interviewed martial arts practitioners	6
<b>Total</b>	<b>23</b>

## **4. Extended literature research**

This section elaborates on the life science topic about unhealthy dietary behaviors. This literature study will investigate whether physical activity, in particular martial arts, could help youth to raise their awareness to get a better lifestyle and to eat healthier. As already explained in section 1.1, overweight and obesity are a growing problem in the Netherlands (CBS, 2016b). This problem could be a combination between less physical activity and unhealthy dietary behaviors, which can be due to low nutritional knowledge.

### **4.1. Nutritional knowledge of youth generally**

It is believed that knowledge about food and nutrition, dietary behaviors, is important to promote a healthy lifestyle. Consequently, it could decrease the rates of obesity. However, there is contrasting research. For example, Thakur and D'Amico (1999) investigated whether low nutritional knowledge is related to obesity in adolescents. No significant differences were measured in nutritional knowledge out of the results between non-obese and obese participants. Therefore, no difference in nutritional knowledge between non-obese and obese adolescents was found (Thakur & D'Amico, 1999). Another similar example measured the nutritional knowledge in obese and non-obese children. Again, no relation was found between nutritional knowledge and obesity (Reinehr, Kerstling, Chahda and Andler, 2003).

In the review of Taylor, Evers and McKenna (2005) is mentioned that the levels of nutritional knowledge are generally low among youth (children and adolescent). They hardly can understand the connection between physical activity, food choice and health. Hence, no difference in nutritional knowledge between non-obese and obese youth has been found. It seems to be a general lack of nutritional knowledge among youth (Taylor et al., 2005).

Besides, low nutritional knowledge youth face other barriers to change their dietary behaviors. Most adolescents blame their unhealthy dietary behavior to a lack of discipline, a lack of time and a lack of availability of healthy food (Story and Resnick, 1986). Furthermore, a lack of proper foods at school and home are important barriers to healthy eating as well (Gracey, Stanley, Burke, Corti and Beilin, 1996). Other barriers youths face towards healthy eating are the impotency to influence food choices at home and sometimes even obscurity about nutrients. Especially nutritional knowledge concerning fat was deficient (Gracey et al., 1996). In addition, a negative relation of healthy eating to alcohol use and television watching has been found, whereas a positive relation to nutritional knowledge and self-efficacy has been found (Gracey et al., 1996).

In summary, there seems to be no difference between nutritional knowledge of obese and non-obese youth. Moreover, the nutritional knowledge among youth seems to be generally low. Youths face other barriers which could obstruct them towards healthy dietary behaviors. Gracey et al. (1996) suggested that nutritional education for youth should take along (more) education about nutrients, self-efficacy and improved access to healthy food. Besides, special attention should be paid to youth who consume alcohol and smoke.

## **4.2. Nutritional knowledge of youth athletes**

As said, nutritional knowledge of youth seems to be generally low among youth. Thereby, youths face other barriers towards healthy eating. However, is this the same for youth athletes? Exercising for sport competition in youth will change the needs of acute nutrients. For example, the energy needs will increase, because of the increased energy expenditure derived from physical activity (Petrie, Stover & Horswill, 2004). Several researches (e.g. Barr, 1987; Dunn, Turner & Denny, 2007; Kunkel, Bell and Luccia, 2001) indicated that increased nutritional knowledge leads to improved nutritional quality of foods, health status and athletic performance of college athletes. Therefore, nutritional knowledge is even more important for youth athletes.

This is supported by the observation that certain athletic groups might not meet their nutritional recommendations (Petrie et al., 2004). In particular, participants in weight-control sports, including martial arts such as kickboxing, might not meet their nutritional requirements for energy, some micronutrients and proteins. Therefore, it is important for youth athletes to have a better nutritional knowledge, so they meet their recommendations.

Unfortunately, no research has been done on particularly kickboxing. However, the nutritional knowledge and the determining factors of nutritional knowledge in Iranian college football and basketball athletes are investigated (Jessri, Jessri, RashidKhani and Zinn, 2010). This was done to address the nutritional knowledge gap by education, which incorporates views towards minimizing injuries and enhancing sport performance. Youth athletes' main source for nutritional information was their coach (Jessri et al., 2010). Likewise, this study showed that the nutritional knowledge of the athletes is not sufficient. As a result, the athletes would benefit from nutritional education and training (Jessri et al., 2010).

Nevertheless, not all research suggests that nutritional knowledge is as important as stated in the previous sections. Murphy and Jeanes (2006) determined how nutritional knowledge had influence on the diet of a group of youth professional football players compared to a control group. The results showed that the football players consumed

significantly fewer calories than the control group. Thereby, the football players consumed fewer carbohydrates than the recommended amounts for youth football players, although their intake as a percentage of energy is significant more than the control group. Concluding that nutritional knowledge had little impact on dietary intakes (Murphy & Jeanes, 2006). Even though football clubs provided a good level of nutritional education, the practice shows that this knowledge is not always translated into a good diet.

Furthermore, Dunn, Turner and Denny (2007) indicated that the nutritional knowledge of college athletes is minimal. Thereby, youth athletes face other barriers as well as youth generally. The main barrier of healthy eating behavior in college athletes is the lack of availability of healthy food. Especially easily and/or fast prepared healthy food, since students have little time and space to prepare a healthy meal (Dunn, Turner & Denny, 2007).

In summary, it is important for participants in weight-control sports such as kickboxing to meet their nutritional requirements for energy, some micronutrients and proteins. Increasing the nutritional knowledge of athlete youth seems to be able to do this. The trainer could be their main source of information (Jessri et al., 2010). Besides nutritional quality of foods, increased nutritional knowledge will lead to an improved health status and athletic performance of college athletes. Youth athletes face barriers as well. Again, a major barrier of healthy dietary behavior is the lack of availability of healthy foods.

#### **4.3. Hardly any difference between youth generally and athlete youth**

It could be expected that doing sports would have positive side effects towards a healthy dietary behavior. Because of doing sports one would become more interested in healthy eating behaviors, as a result the nutritional knowledge would increase. Yet, no research has been found which supports this hypothesis. As described in section 4.1.1 and 4.1.2 there seem to be no differences in nutritional knowledge of youth generally and athlete youth. The nutritional knowledge among youth seems to be generally low, also for athlete youth.

Most included research for this analysis was cross-sectional. No intervention programs were found which only concentrated on the effects of sports on healthy dietary behaviors. Nonetheless, some research about intervention programs focuses on both nutritional education and sports. These interventions included nutritional education and an exercise program and were effective for reducing and maintain weight. The intervention group had during the lunches significantly less fat, sodium and energy while their fiber intake significantly increased (Donnelly et al., 1996; Kim, Choi and Kim, 2007).

In summary, weight control seems to be a combination between more physical activity and more awareness about healthy and dietary behaviors. Therefore, youth would benefit from increased nutritional knowledge about energy, micronutrients and proteins and a regular sporting program. Out of this literature research it seems that physical activity itself will not increase the nutritional knowledge and thereby healthy dietary behaviors, however the trainer could educate youth. Education on nutritional knowledge should focus on nutrients, self-efficacy and improved access to healthy food.

## 5. Results

In this section the results gained from the observations and interviews are presented and analyzed. Firstly, a context for Kickboxing Arnhem is situated according to observations and interviews. Second, the observational study is described. Lastly, the interviews will be discussed according to the theoretical framework and the different perceptions of stakeholders.

### 5.1. Context of Kickboxing Arnhem

Kickboxing Arnhem is located at Arnhem Klarendal in the Multi Functional Center (MFC) Klarendal, which opened in 2015. This center accommodates multiple organizations, for instance KF Action, neighborhood team Arnhem North-West, consultancy and Kickboxing Arnhem (Klarendal, n.d.). On the second and at the same time last floor is the entrance to Kickboxing Arnhem. Kickboxing Arnhem has no special registration criteria. Everyone can join the gym, if they are willing to pay contribution and perform according to the norms and values of Kickboxing Arnhem.

Kickboxing Arnhem does not cooperate with the neighborhood Arnhem Klarendal. There is only cooperation with the municipality of Arnhem. However, these are projects such as demonstrations, lessons, clinics et cetera. In addition, the neighborhood coach of Arnhem Klarendal does not get feedback of people in Klarendal about Kickboxing Arnhem. Moreover, none of the interviewed stakeholders do live in Arnhem Klarendal. The kickboxers live from Arnhem North to Arnhem South to close surrounding villages and even Nijmegen. Most parents bring their children by car, scooter or sometimes by bike.

In addition, hardly any at-risk youths seem to train at Kickboxing Arnhem. Two trainers mentioned in short conversations and during the interview they trained youth who were a dropout or had a criminal past. However, these youths quit very quickly, because they have to train hard and cannot handle the structure and discipline of the gym. Moreover, the trainers mentioned that statistically seen immigrants have more chance to be at-risk and these youths rather train at other gyms where persons of the same mind train. They are often not in favor of the rules that Kickboxing Arnhem use. For example, it is forbidden to fight matches under the age of 16 and it is forbidden to hit the head of others before the age of 16. Only in the competitive group, more immigrants have been encountered.

Furthermore, all the kickboxers perform very well on school. Twelve out of the thirteen kickboxers did never repeat a class. Only one of the interviewed kickboxers repeated a class, because he trained too much during that time. The educational level of the kickboxers

varies very strongly. Five of the thirteen interviewed kickboxers follow the lowest level in secondary education, whereas four of them are still in primary school. Besides, other kickboxers go to community college, applied university or university. Also the home environment of the interviewed kickboxers is very stable. Most of the kickboxers have a family with brother and/or sister. A few of the interviewed kickboxers have no siblings but their parents are together. Only one kickboxer has divorced parents.

## **5.2. Observational study**

The observational study is done to get a better insight and experience of martial arts. The observations helped me experience the social setting. For instance, the behavior of trainers, parents and martial arts practitioners were observed. An example of an observational scheme can be found in Appendix A. The active observations were performed at the advanced youth group, whereas moderate observations were performed at the advanced children group, the competitive group, recreation beginners group and recreation advanced group. The following sub-sections will discuss the results from the observational study.

### **5.2.1. Social and physical environment**

In the beginning I trained three times on Monday with the advanced youth group from 12 to 16 years old. During these trainings of the advanced youth group around 7 parents were present out of a group of around 20 kickboxers. Compared to my football training when I had the age between 12 and 16 years old, hardly any parents were present during a training session. Besides, the trainer does not hold back to ask the parents to keep quiet. In addition, also in the advanced children group relatively a lot of parents were present, around three parents out of the eight kickboxers. However, in all the other groups no parents were attending the training anymore. The parents only seem to be present during the training of youth until the age of 16.

Besides, only the competitive group has a higher amount of immigrants. The other four observed groups have a low amount of foreign participants. I expected this amount to be more, since I associated kickboxing with Badr Hari and therefore more Moroccans. Only two foreign boys are observed in the advanced children group out of 10 children and four foreign kickboxers in the advanced youth group out of 20 persons. This could be due to the preference of foreign children in terms of trainer. They rather train with a foreign trainer, a person of same mind. Another explanation people told me in short conversations were certain rules. At Kickboxing Arnhem it is not allowed to fight in competition before the age of 16

and it is forbidden to hit the head under the age of 16. However, whether the low amount of foreign people is exceptional is not certain, since I have not been in another gym in Arnhem.

Furthermore, the number of female martial arts participants seems to be relatively high in the advanced children group and the advanced youth group. More than half of the participants in both groups are female. This could be due to the fact that the trainer of the advanced children group and the advanced youth group is their trainer and she could be a figurehead for girls. The youth who train at Kickboxing Arnhem seemed to be normal.

### **5.2.2. Health and academic behaviors**

I observed that during the lessons of the advanced children group and advanced youth group, the trainers of these group give pedagogue lessons. These pedagogue lessons deal about norms and values and nutritional behaviors and were returning aspects of the training every week. When I was observing for the first time, healthy food was a topic which the trainer discussed with the advanced children group and advanced youth group. Afterwards, I expected this was due to my appearance because I talked about my background in nutrition and health. However, this was no exception and a returning topic in the following weeks. Also at the gym there are framed two pages about nutritional aspects. The trainer of the advanced children group and the advanced youth group mainly talked about nutrient intake, for example the amounts of fat and sugar and which products contain these nutrients. Beforehand, I did not expect that nutritional topics would be discussed during the trainings. None of my trainers in my whole football career explained anything about healthy nutritional behavior.

The norms and values, which are expected from kickboxers, are discussed most in the youngest group and least in the oldest groups. I expect this is because they are older and therefore expected to know about the norms and values. Mainly discipline and respect are discussed. Kickboxers greet each other and the trainer before the training start. Moreover, when the trainer talks, the kickboxers should pay attention, sit straight and be quiet. It seemed to me that youth reacted understanding to the pedagogue lessons. However, I am not completely sure whether they do that to be polite and behave according the norms and values or whether they actually understand and process all this information. Most of them seem to, but I encountered some exceptions.

Moreover, the training intensity was very high. I am not that trained anymore as I was at the age of 18, however I am still in shape. Nonetheless, the first training I was completely exhausted afterwards, a feeling which I hardly anytime had after a football training. I imagine



that kickboxing gives a very strong condition. Therefore, it seems that kickboxing is way more physical intensive compared to other sports such as football. Besides, it is expected that the martial arts participants are quiet during the training, otherwise you are not training hard enough. I was asked to be quiet as well after I was discussing my technique with another girl. This really fascinated me, because there seems to be a real training mentality.

During the training it is possible to eat or drink. In all the groups I observed only a few people drinking water in between. Thereby, I expected to see a lot of kickboxers drinking protein- or nutrient shakes after their training, especially in the competitive group. Nonetheless, during the observations I only observed two examples.

### **5.2.3. Mental and somatic health**

Especially in the advanced children group I saw a lot of happy faces before the training. Before the training started the children played with each other before the trainer of the advanced children group arrived. Two boys were fighting each other or the punching bag, while the girls were in conversation with each other and sit on the ground. In addition, also at the other groups I observed happy faces when they started the training.

### **5.2.4. Interaction of kickboxers**

During the (participative) observations I did not encounter a lot of conversations between people. At all groups it was quiet during the training and I only heard the sounds people made when punching. I could only observe the conversation of the advanced youth group and the competitive group, since I had to change clothes at the same time. The other moments I was observing in the gym. The conversations I observed were only between boys and deal about kickboxing moments, normal daily stuff such as school and ‘dressing room humor’. The spoken language was mainly Dutch, but sometimes this was mixture with street language.

Especially at the advanced youth group, where I did my active observations, I encountered different groups. It seemed to me that two groups exists, boys versus girls. Within the boys group again two groups could be seen, one group with the younger boys (around 12 years old) and a group with older boys (around 14/15 years old). In the dressing room, the older group was not really talking to each other, just changing clothes, whereas the younger groups was more lively. During at least one training the contrary happened. The older boys trained in the back of the gym and were talking during exercising. As a result, the trainer of the advanced youth group asked them to be quiet and train.

The interaction of kickboxers towards their trainer was very simple. I observed that trainers have certain norms when someone wants to say something. You are only permitted to

say something when the trainer says you are allowed to speak. When the trainer is talking the norms are that you sit straight, keep quiet and pay attention to the trainer. Otherwise the trainer will stop and ask to behave according the norms the trainer sets. Compared to football, these norms are way more respected and strict in kickboxing.

Moreover, I observed that youth could come to trainers before or after the training. What they discussed was unclear during the observation and seemed to be private for others. This happened more often in the advanced children group and advanced youth group. The groups from the age of 16 and older have this opportunity as well, however they do not seem to use this as much as the advanced children group and the advanced youth group. Furthermore, no socially involvement in the neighborhood is perceived.

Lastly, during some short conversations I had before and after the training, kickboxers told me that they do not live in Arnhem Klarendal They come from other neighborhoods in Arnhem or even from Huissen or Hatert to train at Kickboxing Arnhem. It seemed to me that a lot of kickboxers practice at Kickboxing Arnhem because of the good guidance and vision of the trainers.

### **5.3. Interview results**

In this section the results of the interviews with the different stakeholder are presented. Before discussing the outcomes of the interviews, one can find the socio-demographic characteristics of the interviewees in Appendix B. Relevant observations were included in the interview questions (Appendix C). Furthermore, the interviews were conducted with randomly chosen stakeholders. The questions were adapted to the level and interest of the interviewee. The next sections discuss the different stakeholder perceptions on kickboxing. Starting with the motivation to start kickboxing. Afterwards, the mental and somatic health effects are discussed followed by the health and academic behaviors and the social environment.

#### **5.3.1. Motivation to start kickboxing**

Kickboxers started kickboxing through their parents. They were the biggest stimulation for youth to start kickboxing. This was mentioned a lot of times in combination with being bullied and wanting to be more ‘defensible’. In addition, a lot of kickboxers just found martial arts in general very attractive. These motivations could be due to that almost all of the interviewed kickboxers do have family and/or friends who are known with martial arts.

Remarkably often both kickboxers and parent mentioned the stimulation was because the kickboxers were bullied or even hit. Another aspect is defensibility. Some of the

kickboxers started with defensible-training at the company of their trainer of the advanced youth group. Part of the defensible-training is learning the basics of kickboxing. This made some of them curious towards kickboxing and they felt more self-confidence after a while. For that reason they started with kickboxing at Kickboxing Arnhem. Nevertheless, the stimulation by parents was not always in combination with being bullied or getting more defensible. Some parents stimulated their children because they had to do a sport or they stimulated their children to get rid of energy because they were really lively. According to the interviews nothing can be said about why those parents think sport is that important for youths.

Besides parents stimulating their children, more reasons why youths started kickboxing were mentioned. The juveniles mentioned they choose for kickboxing because they like martial arts or they can get rid of their energy. Some of the interviewed kickboxers mentioned they just like martial arts, because they simply feel a connection towards martial arts. Before starting kickboxing they did other martial arts, for example karate or taekwondo. Furthermore, some of the kickboxers mentioned they started kickboxing because it is very intensive. It was mentioned that the sports they did before, such as gymnastics or dansmarietjes (kind of dancing), were not intensive and challenging at all. Therefore, they were looking for a more intensive sport, so they could get rid of their energy

The trainers mentioned they start providing training to youth because they need to earn money in combination with the passion to help people. Interestingly, both trainers of the advanced children group and the advanced youth group both said they enjoy helping youth, whereas the trainer of the competitive group mentions that his goal is to make champions. Two of the three trainers started to give kickboxing training, because they had to earn money next to their professional kickboxing career. Most easily this would be at the gym, so they could practice for their selves after giving training.

In the interviews the parents and kickboxers mentioned that the trainers are very valuable at Kickboxing Arnhem. They all have the same vision. For example, no fighting techniques used outside the lessons on principle. This is in line with the norms and values, which are used by the trainers. There is at least one example of someone who was send away, because she broke the nose of a girl at school.

Lastly, the trainers are not in line with each other about diploma regulation. One of the trainers is very clear in her opinion. She mentioned that every trainer who works with children, it does not matter in which type of sport, should have a diploma. Another trainer is

not that explicit, he mentioned that it could be good for kickboxing to have a certain certificate, since you teach people how to fight.

### 5.3.2. Mental and somatic health

Kickboxing can give youth more self-confidence, self-regulation and respect. In the interviews these four aspects came forward very often by kickboxers. In addition, the parents of kickboxers and trainers experience this as well. According to the interviews with parents, kickboxing gave their children more self-confidence and discipline, whereas trainers mentioned that kickboxing give participants more self-confidence, self-regulation and respect. Kickboxing is a way to improve and balance of youths mentally and physically.

Furthermore, kickboxers mentioned some other valuable aspects of kickboxing, such as indicating personal borders towards others, structure and self-defense. However, these points were only mentioned by at most three people. Additionally, parents mentioned valuable aspects, such as self-defensibility, respect and persistence. These were often in combination with self-confidence, discipline, a good shape and strength. Furthermore, trainers name a lot more valuable aspects of kickboxing, such as stand up for yourself, respect and persistence.

Besides, the vision on kickboxing of the trainers is in line with the accomplishment of their goals. Two out of the three trainers mentioned that their vision of the training is to make youth physically and mentally stronger and keep this in balance. The vision of the other trainer is more based on social psychological outcomes such as discipline, self-regulation and respect.

During the interviews trainers explained that they already know kickboxing can be valuable for youths, since they get feedback from parents and sometimes (years after their training) from kickboxers. Besides, trainers encounter big changes in posture and happiness of some kickboxers after already a few months. They mention that some kickboxers start with their shoulders slumped, whereas after two or three months their posture is straight. One trainer said:

*“I can see it at the way children start and how they change in such a short amount of time. So from slumped shoulders, insecure, discontented to strong, powerful children who are confident and trust themselves. And they feel mentally stronger.” - (Trainer of the advanced youth group)*

### **Boost in self-confidence**

Participants of kickboxing encounter a boost of their self-confidence. Whereas some of the kickboxers were insecure or shy before, they now feel more confident. Other kickboxers just mentioned they got more self-confidence even though they were not insecure before. One kickboxer said:

*“In the past I was pretty insecure, also in the classroom. And now I am more- And with arguments outside the classroom I am more yes, I can speak on behalf of the class.” - (Kickboxer female, 11 years)*

Afterwards she said that her self-confidence definitely rose through kickboxing, since she did not encounter this feeling during gymnastics. This can be seen by other kickboxers as well, often they mentioned self-confidence in combination with the power to speak up for themselves.

As well as children encountered a boost in self-confidence, also parents encountered a boost in self-confidence for their children. They mentioned to see a difference in posture and happiness between the first time their children went to the kickboxing training and already after a few weeks. One parent said that it is 100% sure the self-confidence of her daughter rose because of kickboxing. One mother said:

*“Well, what it accomplished for my daughter is that she is not that insecure anymore, just more confident. She is defensible, so may she ever get into a situation where she, yes she knows what to do. For her it was simply very good to choose this sport. She is just physically, mentally and everything, she has grown a lot.” - (Mother of female kickboxer)*

### **More respect for others**

Furthermore, participants of kickboxing encountered as well that their respect for others rose. In the interviews they mentioned that their trainers taught them this. Showing respect is done in several ways, for example listening and paying attention while the trainer was speaking. One kickboxer said:

*“Respect is very important. If the trainer is speaking than we should be quiet. At other sport schools you can see parents talking with each other at the sideline, that is not what I am used of. You do not talk with anyone. If the trainer is talking, it is quiet.” - (Kickboxer male, 17 years)*

In addition, showing respect is also respecting each other's strength. This means that they keep the strength of the opponent kickboxer into consideration. For example, the strength differs between an 11-year-old girl and a 14-year-old boy. The 11-year-old girl should set her boundaries if it hurts too much and the 14-year-old boy should respect these boundaries.

### **Improvement in self-regulation**

During interviews topics such as discipline, persistence and aggression regulation came back very often. Kickboxers mentioned in their interviews that they learned to persist in exercises. Even though they were completely exhausted, they learned to not give up. In addition, some kickboxers told that training would let them get rid of aggression. Afterwards, they do not feel aggressive anymore during the day at school and at home, while they used to be more aggressive before.

Also parents endorsed that discipline is a valuable aspect children learn at kickboxing. Most of the parents usually attend the kickboxing training, therefore they can see as well the approach of the trainers. Parents mentioned that their children learn a lot of discipline. For example being present in time, follow up on the agreement and being quiet while the trainer is speaking. Being quiet while the trainer is speaking overlaps with respect.

### **5.3.3. Health and academic behaviors**

#### **Improvement of shape and strength**

Besides mental aspects, such as boost in self-confidence, more respect for others and improved self-regulation, also physical aspects such as good shape and strength were encountered really often as something valuable of kickboxing. All stakeholders mentioned this as valuable.

Several kickboxers who used to do athletics, gymnastics, dansmarietje, tennis or football before they started kickboxing, mentioned that kickboxing got them more strength and a good shape. This was one of the most encountered differences with other sports. One student said about football:

*“Football was actually, as you start kickboxing, not intensive at all. So, I could just go to football training right after my kickboxing training and did not encounter any troubles. Thus, I did football more as a hobby, even though I did it on a pretty high level.” - (Kickboxer, male, 20 years)*

Besides, parents and trainers experienced the very good condition of the children as well. Also physically they see differences. One father said:

*“Yes, if I see how he started here and if I look at him now, three years after. And if I see how his body changed in that period. Yes, if I see him in his bare butt, than he really has such legs, such butt and all muscle. He has a six-pack and yes kickboxing achieves that.” - (Father of male kickboxer)*

Furthermore, a lot of parents mentioned self-confidence in combination with the improvement of shape and strength. In the quote of the mother about self-confidence, she already mentioned the combination of physical and mental aspects of kickboxing. She was not the only one who said something about the combination of self-confidence and a good shape and strength. One Mother said:

*“Dealing with uncertainty. On one hand if you are physically strong than your posture is better, you walk more confident. You dissipate something else as when you are more scared and physically less strong. They maybe have a better poker face in situations they are scared or insecure. And for example, my daughter is tall, very tall and that attracts attention. The chances of bullying rise. However, if the others from her class know that you are stronger and faster, they will not try anything.” - (Mother of female kickboxer)*

### **Dietary behaviors**

Kickboxers and parents appreciate the tips trainer give about healthy nutritional behavior and take them into consideration. Parents often try to implement a healthier nutritional behavior on request of their children. Trainers discuss healthy nutritional behaviors, because they feel like they have an educative function. Especially in the advanced children group and advanced youth group healthy nutritional behaviors are discussed on a regular basis.

In general, almost all the interviewed kickboxers seem to appreciate the tips and most of them take the nutritional tips into consideration. Also most of the parents mentioned they appreciate the nutritional tips and try to do something with these tips. Kickboxers mentioned that through the discussion of nutritional behavior they actively process all the information

and try to implement this in daily life. Moreover, some of the interviewed kickboxers even said their whole household changed through the tips.

However, one competitive fighter said he does not pay any attention towards his eating behavior. He just eats whatever he likes even though a match is coming in a few weeks. In addition, this competitive fighter recently started at the competitive group at Kickboxing Arnhem. Therefore, trainers of the advanced children group and advanced youth group never gave these tips to him.

Also some of the kickboxers who do get these tips said they do not pay a lot of attention towards healthy eating, since their parents already provide healthy food. Sometimes they do appreciate the tips. However, not everyone mentioned it is that interesting as they already eat healthy at home. It is often unclear whether they take these tips into consideration or do not do a lot with these tips. One kickboxer said:

*“My mother always cooks organic. She is really someone who thinks, I want organic, organic, organic. We never have white bread at home. If bread contains grains and the taste is comparable to white bread, than we always have the grains. And we often have bio, so that works. Thus, for me it does not really make sense, because I already eat healthy ” - (Kickboxer, male, 11 years)*

According to the interviews with parents it did not become clear what kind of changes parents make at home. Additionally, it remains unclear whether parents change nutrient intake of lower the intake of certain products. Nevertheless, not every parent does appreciate the tips or take them into consideration. There is at least one example where a mother is not in favor of all the nutritional tips. She said:

*“The part about nutritional is not applicable to us, because we already eat according to- You try to eat healthy, because you do not know what has been sprayed if you buy something. But, in any case I find it a bit difficult if that is discussed at the gym, because we already always take it into consideration. And yes I do find it sometimes a bit annoying, because than I think we already know that, but maybe the trainer of the advanced youth group is looking to it from another point of view.” - (Mother of female kickboxer)*



The trainers of the advanced children group and the advanced youth group mentioned during the interviews that they discuss healthy nutritional behaviors at Kickboxing Arnhem. The trainer of the competitive group mentioned he does not discuss nutritional behaviors. Out of the interviews it became clear that the trainers of the advanced children group and the advanced youth group feel they have an educative function. They mentioned that they discuss values and norms and aspects about healthy nutritional behavior. One trainer said:

*“That is my job, that is part of being a trainer in my opinion. You are a role model. So yes, that is just how it goes. Yes, it is just how I am raised and I think that as a teacher you have a certain role and you try to educate your kickboxers. And wisdom of life, what is good and what is not? So yes, for me it is no issue, it is the most common thing to do.” - (Trainer of the advanced youth group)*

### **Alcohol use**

Kickboxers mentioned they do not use alcohol. Two out of the thirteen kickboxers mentioned they do not use it, because it can affect their kickboxing performance. These two kickboxers train at the competitive group. Also the parents mentioned that alcohol use is forbidden for their children, since they are underage. Nevertheless, reflecting on statistics and my own behavior, alcohol starts to get interesting around the age of 13/14. From the kickboxers only two people admitted they drink on regular basis, whereas only one kickboxer drinks almost every weekend. As mentioned, two boys of the competitive group hardly ever drink, because it has negative influence on their training. One kickboxer said:

*“Because I experience that myself. For example I definitely feel it during training on Saturday morning if I had some drinks on a Friday night. And yes that is a shame, because I come to Kickboxing Arnhem all the way from Nijmegen and then I have such a bad training because of the night before. So, that is why I avoid alcohol. Parties etcetera, I always cancel them.” - (Kickboxer, male, 17 years)*

### **Smoking**

None of kickboxers has ever smoked a cigarette and they are not planning to do so in the future. As said for alcohol, the statistics of smoking say that people start quite early. However, kickboxers mentioned that their parents forbid smoking or their parents do not

smoke as well. In addition, one kickboxer said that smoking makes you smell bad. Also parents mentioned that smoking is forbidden for their children, since they are underage. Even though most kickboxers mentioned other factors why they do not smoke, one kickboxer mentioned he does not smoke because of his sport:

*“I want to do a lot for my sport. So, if they offer me a cigarette at school, I would say, no I do not want a cigarette, my sport is on the first place. So, no thank you.” - (Kickboxer, male, 16 years)*

Yet, even though none of the kickboxers said they had ever smoked, two of them smoked weed. This was only occasionally and they do not do this anymore. The kickboxers did not mention that they quit smoking cigarettes or weed, because of kickboxing. One competitive fighter mentioned that his parents really forbid him to use drugs, therefore he never used any drugs. Whether other kickboxers do or did other drugs except weed is unclear, since this was not discussed during the interviews.

One trainer mentioned really clearly he does not want to have drug dealers at his gym. Out of his own experience he mentioned that kickboxing is associated with criminal behavior, amongst which is drug dealing. He strongly disapproves this behavior. Therefore, if he hears something about drugs he will intervene and dismiss those kickboxers. He does not want such kickboxers at his gym, because it can affect others.

### **Academic performance**

Kickboxers and parents mentioned that the academic results are very good. Beside good results at school, two kickboxers mentioned that kickboxing taught them to get more respect for a teacher and more discipline, which they mentioned as valuable aspects when at school. Besides, parents mentioned that kickboxing gave their children persistence, which they could use at school, for example when they have to study for an exam.

### **Violence**

Hardly any violence or fighting techniques are used outside Kickboxing Arnhem. Almost all of the interviewed participants said they had never used techniques outside the gym or they had never come into a fight since they started kickboxing. Parents and trainers endorsed this in the interviews. Nevertheless, three of the interviewed kickboxers mentioned they used violence or fighting techniques. However, only one of the three used it in the last year.

## **Injuries**

Most kickboxers are no risk seekers according to their injuries. Not a lot of injuries came from kickboxing itself. Most of the interviewed kickboxers mentioned they never had any injury at all. Only one interviewed kickboxer had a heavy injury on his back. Some others just had bruises or small injuries, such as sprains. Besides, actually most of the kickboxers mentioned they never broke something, also outside kickboxing. Only four out of the thirteen kickboxers broke something and rather not because of risky behavior but an unlucky fall. This topic is not discussed with parents and trainers, therefore it is not possible to say anything about this risk behavior from their perspective.

## **Sexual behavior**

Lastly, no questions were asked about sexual behavior and unintended pregnancies. It did not come forward during the interviews and no questions were asked about this topic. Therefore, it is not possible to say anything about this risk behavior from the stakeholders' perspective. Nevertheless, even though not all health and academic behaviors were discussed with trainers, they mention that it is possible for youths to discuss those topics.

### **5.3.4. Social environment**

#### **Social identity theory**

Within the advanced youth group are no differences between kickboxers. Most of the interviewed stakeholders declared this during interviews. In particular parents mentioned explicitly they do like Kickboxing Arnhem, because everyone feels equal. The kickboxers behave according to the group's norms and values. Yet, some stakeholders mentioned they do see in-groups and out-groups. These in-groups and out-groups exist mainly of boys versus girls, however this is regarded as normal.

Kickboxers mentioned they do not feel in-groups and out-groups within their training group. They feel that everyone is the same and belong to one group. Nevertheless, a few kickboxers experience in-groups and out-groups within the advanced youth group. Those kickboxers mentioned that in-groups and out-groups usually exist of the boys and the girls. Thus, the older boys were mostly training in the back of the gym together, while the girls also train with each other. Besides, out of the interviews, no differences have been encountered between natives and immigrants, since not a lot of immigrants train at Kickboxing Arnhem in the advanced children group and the advanced youth group.

The parents have different experiences regarding in-groups or out-groups within the advanced youth group. One mother declared that her daughter did not experience any form of groups. The trainer told everyone the first day she came to training that everyone is equal. Nobody is better or worse than others. This was something very valuable for the mother to stay at Kickboxing Arnhem. In contrary, another mother mentioned to see in-groups and out-groups. The in-groups and out-groups usually exist of the boys and the girls. Her daughter rather trains with other girls, which she like to arrange before the training, while her son most of the time trains with another boy of the same age.

According to trainers there are some in-groups and out-groups. Especially groups between boys and girls exist. Though, they do not see this as a problem as they declared it is pretty common in kickboxing. Two trainers told me that kickboxers always have a preference of training partner. You rather train with someone of the same length, height and strength, since this is comparable as you start with the competitive fighting. Moreover, no kickboxers are excluded from the group.

In addition, the interviewed kickboxers mentioned differences between other sports (groups), but mostly without really judging. Differences with other sports were chiefly about intensity of the training, the individualism of kickboxing and respect. Only one girl mentioned that gymnastics was very 'soft' compared to kickboxing.

### **Social support**

Kickboxing Arnhem provides a lot of social support towards youth. Especially the trainers of the advanced children group and advanced youth group give emotional-, instrumental- and informational support. Kickboxers and parents appreciate this. The social support is only directed from trainers to kickboxers, because kickboxers do not seem to socially support each other.

All the kickboxers are very positive about their trainers. Especially the tips about values and norms and healthy eating behavior are appreciated. Furthermore, they find their trainers very good motivators, who keep you sharp during the training. In addition, most of the interviewed kickboxers got two or three trainers. The variation of trainers is experienced as something valuable by the kickboxers. All the trainers have the same vision and they stay consequent. In the end, not all kickboxers make use of social support from trainers, but it is possible to do. One kickboxer was very happy with the advice of her trainers:

*“But yes, if you are in an argument or whatsoever, than the trainer of the advanced youth group and the trainer of the competitive group will help you. So yes. Yes, they talk with you about the solutions and what you should and should not do in that specific situation. I really appreciate that.” - (Kickboxer, female, 14 years)*

Also the parents of the kickboxers mentioned the social support of trainers towards their children. Most of the parents choose on purpose for Kickboxing Arnhem, because of their vision and interaction with the kickboxers. They really appreciate that the trainers educate the kickboxers. Topics as healthy nutritional behavior and norms and values are discussed often. Besides, children of the parents can go to trainers with problems. One mother said:

*“The trainer of the advanced youth group sensed kickboxer (girl, 13 years) really quickly. They had a click together. Thereby, the trainer of the advanced youth group could manage her and give her advice. Kickboxer (girl, 13 years) finds it difficult when being bullied or - Yes, she is very insecure. So, that is sometimes difficult at school. It was very beneficial for her that she could talk with the trainer of the advanced youth group. After that, the trainer of the advanced youth group had some advice for her, which she could use. That gave her a good feeling. I do not know what they discussed, that was between the two of them” - (Mother of female kickboxer)*

In addition, parents mentioned that they really appreciate the variation of trainers. On Monday and Thursday they have a different trainer. Parents mentioned they appreciate that that, because the vision is the same, but their children learn to interact with multiple trainers. Furthermore, a lot of parents choose on purpose for Kickboxing Arnhem. Half of the interviewed parents had contact beforehand with at least one of the trainers. Some parents heard via family, friends or other kickboxers that Kickboxing Arnhem is the place to be for youths. They are very positive about the trainers' vision and the consequence they use in their trainings. One father said:

*“If you look at Reflex for example than it is maybe permitted to hit the head at the age of 12 years old. I am totally against that. From the age of 16 I do think it is permitted, because I find the development of the brains very important. At the age of 12 or 13 you should not get hit on the head, every hit is one too much. That is the same vision they have here. Yet, there are parents who think that is bullshit, it is kickboxing so ‘hup’ ‘hup’ on the head and punch. Yes, some parents think like that, therefore those people could better go to Reflex.” - (Father of male kickboxer)*

Moreover, trainers confirmed during interviews they give kickboxers social support. Especially for the advanced children group and the advanced youth group the trainers are very supportive. They mentioned that educating children is part of their job. One trainer said:

*“I have had encountered, let’s say when they got home or at my training- Yes, last week Friday I was at school and then I was pulled at my hair. They sometimes tell me those stories, especially in the Friday group. But usually I discuss those issues with the whole group. Like, oke, this happened last weekend with that person or that person. That person reacted like this and that, was that reaction socially acceptable, was that oke? Do you agree? Or would you have solved it differently? That is what we discuss sometimes, yes.” - (Trainer of the advanced youth group)*

As said in section 5.1 no real at-risk youths was interviewed. The trainers mentioned they trained some at-risk youth in the past. However, the approach towards this youth is not different from the approach towards other youth. During the training trainers make no distinguish between youths. They mentioned they stay consequent in their approach. One trainer said:

*“I do not approach youths differently. At the first moment I will treat a ‘special’ youth in a special way, you get that discipline aspect. The desired behavior blurs for other youths. And to be honest, I do take special youth into consideration. But, you have to behave the same as the other children if I ask you to sit on your knees. If you sit there, you keep your mouth closed when I am explaining. You can only stand up when I tell you. You know, those things should be tight. Especially for special youths.” - (Trainer of the advanced youth group)*

Nevertheless, not all trainers give that much social support. The trainer of the competitive group mentioned he does care less what happens outside the gym. He only discusses issues when it has negative affects inside the gym, because he said that his main goal at the competitive group is to make champions. Nevertheless he is open to help kickboxers if they need help. He mentioned that he could see when kickboxers need help. This is noticed when kickboxers behave differently as they used to do. For instance, when a kickboxers forget clothes or protection or when he/she is late for training. In that case trainers will take action and approach them.

Besides social support of trainers, youths mentioned they do not have a lot of social support of each other. The youths do not have a lot of contact with each other except for the training. They hardly meet each other outside the training. Only a few kickboxers mentioned they meet each other once in a while. Thus, almost all the interviewed kickboxers do not see each other besides the training. However, they do have social contact on WhatsApp or Instagram. Half of the interviewed people only use it for sport related questions, the other half uses it to socialize. Parents endorsed this during interviews.

### **Social capital**

At Kickboxing Arnhem there is bonding and bridging especially within the group of the advanced youth group and competitive group. Bonding happens at all training groups because kickboxers train mainly with people from the same age. Besides, there is bridging in these groups, mainly in the competitive group, since different races and educational levels train together. It is a place where different classes, races and religions become one network. However, nothing can be said about bridging to other groups or societal stakeholders.

Out of the interviews with the kickboxers it became clear that almost all kickboxers do not feel in-groups and out-groups and therefore blend in the group. Furthermore, the amount of immigrants is higher in the competitive group compared to the other groups. As a result, the spoken language is Dutch mixed with street-language. At least one kickboxer said he had some troubles in the beginning with differences in educational level. However, there seems to be bonding between them since he said:

*“I was the outsider for a long time. Not that they saw me as an outsiders, but I found it difficult to talk with them. There was always a kind of street language used in the dressing room. But, since I became older, since I became 17, 18 years old it goes better...”*

*...You train together four or five time a week. Nowadays I have a lot of contact with them. We WhatsApp, train together, 'petsen' together, I have found my place. Yes, it really surprised me in the end how open everyone is" - (Kickboxer, male, 20 years)*

From parents' perspective it is hard to say whether bonding occurs at Kickboxing Arnhem. Out of the interviews with the parents it was not clear whether in-groups and out-groups exist within the advanced youth group. Nevertheless, one mother mentioned that Kickboxing Arnhem shows bonding in the advanced youth group. It is a place where different classes, races and religions became one network. One mother who said:

*"The children grow up in their own environment with home, school, family and neighborhood. The moment they come here, they meet other kickboxers from different environments. Therefore, you meet children with other backgrounds, who you usually will not meet." - (Mother of male kickboxer)*

According to the trainers there is social capital at Kickboxing Arnhem. They mentioned that bonding and bridging happens at Kickboxing Arnhem. Bonding happens mainly between people from the same age and boys versus girls. Bridging happens slightly more at the competitive group, since different classes, religions and races train together. They become one network. One trainer said about the differences in level of education, religions, races and age:

*"Yes, at the same time it is a real mixture of people. I mean if you look at our sport, so many different people train at Kickboxing Arnhem. Qua race, qua faith, qua conviction, qua attitude, qua level, qua school. All mixed up. It is the perfect reflection of our society. - (Trainer of the competitive group)*

However, from the perspective of kickboxers, parents, trainers and neighborhood coach nothing can be said about bridging towards other sport communities or bridging with the neighborhood, because this did not come forward during the interviews with the different stakeholders.



## 6. Discussion

In the present study the value of martial arts was examined, because literature show mixed outcomes. The next section will focus on the outcomes of the literature and qualitative study. Thereby, the sub-questions and main research question will be answered. Section 6.2 discusses the limitations of this study. Lastly, section 6.3 will focus on future research.

### 6.1. Values of kickboxing

The aim of this thesis is to identify the value of martial arts, in particular kickboxing, for at-risk youth. In order to get the answers the sub-questions will be answered first, while afterwards the main research question will be answered.

#### 6.1.1. What are the effects of martial arts on the mental and somatic health according to stakeholder perceptions?

According to kickboxers, parents of the kickboxers and the trainers of the kickboxers, kickboxing leads to improved self-confidence, improve self-regulation and increase respect for others. Also during active observations the researcher showed that there is a lot of respect and discipline at kickboxing.

Moreover, a lot more mental and somatic health outcomes were found which could be effects of kickboxing. Kickboxers mentioned that kickboxing leads to indicating borders towards others, self-defensibility and persistence. Parents mentioned also that kickboxing leads to stand up for yourself and trainers mentioned an increase in structure.

This in line with literature, for example, Elling and Wisse (2010) found that practicing martial arts leads to improvement of social psychological outcomes such as confidence, aggression tolerance and prosocial behavior. In addition, Vertonghen and Theeboom (2010) found as well positive effects on social psychological outcomes, such as a higher level of self-regulation and a decreased level of violence.

#### 6.1.2. What are the effects of martial arts on the health and academic behaviors according to stakeholder perceptions?

Kickboxing has positive effects on several health and academic behaviors. For example, according to kickboxers, parents and trainers and active observations the shape and strength of youth improves. Additionally, according to kickboxers and parents kickboxing seems to have a positive effect on school performance and attitude. Besides, kickboxers use hardly any violence outside the gym. However, no evidence was found for effects of kickboxing on

healthy nutritional behaviors. It seems that the trainers have a positive effect on healthy nutritional behavior.

According to kickboxers, parents of the kickboxers and the trainers of the kickboxers, kickboxing improves the shape and strength of youth. Beforehand, no studies about improved shape and strength had been encountered when searching for effects of martial arts. Yet, during active observations it became clear how physically intense kickboxing is compared to for example football. This is in line with research of Ouergui et al. (2014), who examined the effect of kickboxing training on physical fitness compared to a control group. Kickboxing showed significant improvement compared to the control group. Therefore, it could be useful for enhancing physical fitness.

In addition, improved shape and strength seems to have an influence on mental and somatic health. Especially parents and trainers mentioned this in their interviews. They mentioned that improvement in strength will give youth a better posture. As a result this better posture will display an air of confidence. This is in line with previous research. For example, physical fitness programs have positive affect for increased self-esteem, increased well-being, lowered anxiety and goal-setting (Collingwood, 1997). Other research confirm this, it has a positive affect for improved social behavior and self-esteem (Bailey, 2006).

Kickboxing seems to have positive effects to school performance and attitude. In interviews with kickboxers it was mentioned that kickboxing taught them respect towards others as well as discipline, they mentioned this was also valuable at school towards teachers or assignments. Furthermore, parents mentioned that kickboxing gave their children persistence, which seems to be useful at school exams. This is in line with literature, which suggests that physical activity has a positive affect for improved school attitudes (Bailey, 2006).

However, from the interviews it is unclear whether kickboxing has effect on the awareness of a better lifestyle and healthy eating behavior. Beforehand, hypothetically it was expected that kickboxing would have positive effects to the awareness of a better lifestyle and healthy eating behavior. According to interviews with kickboxers and parents, both stakeholders mentioned they appreciate the tips trainers of the advanced children group and advanced youth group give about healthy nutritional behavior, but nothing has been said about increased awareness because of the sport itself. It seems that the trainer is the main source of healthy nutritional information.

According to the (active) observations, healthy nutritional behaviors are discussed on a regular basis especially in the advanced children group and advanced youth group. The

trainers of these groups mentioned that they discuss healthy nutritional aspects mainly on the level of nutrients, for example fat and sugar, and a bit at self-efficacy and access to healthy food. Kickboxers and some parents mentioned they implemented a healthier nutritional behavior back at home, which would suggest that the information of the trainers has an effect on the awareness of healthy eating behavior.

Trainers mentioned in the interviews that they discuss healthy nutritional behaviors, because they feel like they have an educative function. This is in line with literature, which found that youth athletes' main source for nutritional information was their coach (Jessri, 2010). Nevertheless, some kickboxers mentioned they do not pay attention towards healthy eating behaviors, because their parents already provide healthy food.

Furthermore, according to interviews with kickboxers it seems to be that youth from the competitive group does pay a lot of attention towards other health behaviors such as smoking, alcohol use and drug use. Two out of the three interviewed kickboxers from the competitive group mentioned explicitly that they do not use alcohol since it has negative effects on their training. Besides, one of the competitive fighters said he got offered many cigarettes at school, but he never accepts them because it has a negative influence on his kickboxing career.

Thereby, according to interviews with kickboxers hardly any violence is used outside Kickboxing Arnhem. Also parents and trainers endorsed this. No violence outside the gym is in line with the norms and values of Kickboxing Arnhem, which were mentioned by the two trainers in their interviews and the outcome that kickboxing improves self-regulation (Baumeister, Heatherton & Tice, 1994). In addition, the kickboxers mentioned that the amount of injuries during kickboxing is very low as well as injuries or fractures outside the gym. Lastly, nothing can be said sexual behavior, because this did not come forward during the interviews.

### **6.1.3. What are the effects of martial arts on the social and physical environment according to stakeholder perceptions?**

No evidence was found for an effect of kickboxing on social and physical environment. According to interviews with trainers and the neighborhood coach there is no specific cooperation with Arnhem Klarendal. Furthermore, none of the interviewed stakeholders live in Arnhem Klarendal.

Kickboxing Arnhem does not cooperate with the neighborhood Arnhem Klarendal. In the interviews with the trainers and neighborhood coach was mentioned that Kickboxing

Arnhem cooperates with the municipality of Arnhem. However, these are only projects such as demonstrations, lessons and clinics. Besides, the neighborhood coach of Arnhem Klarendal mentioned that she does not get feedback of people in Klarendal about Kickboxing Arnhem.

In addition, none of the interviewed stakeholders do live in Arnhem Klarendal. They live in other parts of Arnhem or surrounding villages. Therefore, it seems that Kickboxing Arnhem has no effects to the neighborhood Klarendal. This study showed that Kickboxing Arnhem does not have interaction with the neighborhood.

Furthermore, it is hard to draw conclusions whether kickboxing has an effect on the home environment. The home environment of the interviewed kickboxers is already very stable, because most of the kickboxers have a family with brother and/or sister and a few of the interviewed kickboxers have no siblings but their parents are together. Only one kickboxer has divorced parents.

#### **6.1.4. How can potential effects of martial arts on at-risk youth be explained, using social psychological theories?**

Improved self-confidence of youth can be explained according to the social identity theory. Identification to a group, in this case kickboxers, leads to improved self-esteem for youth, because it will become bound up with group membership (Tajfel & Turner, 1979). Self-esteem refers to how people feel about themselves (Smith & Mackie, 2007) and is part of self-confidence. Furthermore, social support can lead to improved self-confidence and can give constructive feedback on several health behaviors. This is useful for self-evaluation purposes and can stimulate people to reconsider health behaviors (House, 1981). The intention of social support is always to be helpful. Lastly, social capital helps people to belong to a group and can therefore increase self-esteem and self-confidence.

Based on the social identity theory, kickboxers categorize and behave according to the group's rules and norms (Tajfel & Turner, 1979). Out of this study it became clear that trainers set these rules and norms. Kickboxers identify themselves with a certain group and adopt the identity of the group they belong to. According to kickboxers, parents and trainers, youth identify themselves as martial art participant, which seems to have an influence on their behavior. As a result the self-esteem will become bound up with group membership (Tajfel & Turner, 1979). Therefore, it seems that kickboxers act more self-confident, because they physically improve and are more defensible. Besides, kickboxers show more self-regulation, since they are more able to control their emotions and set their boundaries.

Besides identifying to a group, people tend to compare different groups. Within the advanced youth group no in-groups and out-groups can be found. It seems that there are no in-groups and out-groups within the advanced youth group, since everyone behaves according to the rules and norms set by the trainers. Most probably youth belong to more different groups, because as an individual this is possible (Tajfel & Turner, 1979). However, the interviewed kickboxers only mentioned some differences between other groups. Those differences are based on other sports and were chiefly about intensity of the training, the individualism and respect of kickboxing. Only one girl mentioned that gymnastics was very 'soft' compared to kickboxing. This could mean that kickboxers identify themselves as tough persons.

Furthermore, there is a lot of social support of trainers to youth. Social support refers to the idea that other people that will care for you (Heaney & Israel, 2008). Especially the trainers of the advanced children group and advanced youth group give emotional, instrumental and informational support. This can lead to improved self-esteem and self-confidence of trainees. Thereby, social support of trainers, mainly informational support and appraisal support, can lead to improved health and academic behaviors, such as improved healthy dietary behaviors, less alcohol and drug use and can underline the importance of school. This is useful for self-evaluation purposes (House, 1981).

However, according to interviews with kickboxers and trainers the social support seems to be only directed from trainers to kickboxers, because kickboxers do not seem to socially support each other. Kickboxers of the advanced youth group do hardly meet with others of the kickboxing school outside the training. An even when that is the case, it is only once in a while. Parents endorsed this in their interviews. Therefore, Kickboxing Arnhem does not seem to have a social network. Because there are hardly other functions served except providing support (Heaney & Israel, 2008).

Lastly, bonding and bridging exist within Kickboxing Arnhem. According to this study, bonding happens within all the different training groups, since especially youth with the same ages train together (Putman, 2000). This is in line with the social identity theory, because belonging to a group can increase self-esteem and self-confidence. In addition, kickboxers and trainers mentioned there is bridging between different classes and races within those groups, which can be seen most clearly at the competitive group. Therefore, Kickboxing Arnhem seems to be a place where different classes, religions and races become one network. Furthermore, nothing can be said about bridging towards other sport

communities or bridging with the neighborhood (Buettner & Debies-Carl, 2012), because this did not come forward during this study.

#### 6.1.5. What is the value of practicing martial arts on at-risk youth?

Kickboxing could be valuable for youth, because according to our results it boosts self-confidence, improves self-regulation and increases respect for others. Furthermore, it improves shape and strength of youth, improves school performance and attitude and it prevents the use of violence outside the gym. Thus, kickboxing seems to have effect on the mental and somatic health as well as on health and academic behaviors, as shown as red boxes (Figure 4).

Furthermore, improved shape and strength seems to have an effect on mental and somatic health. However, it is unclear whether physical activity is correlated to the awareness of a better lifestyle and healthy eating behavior. It seems that the trainer is the main source of healthy nutritional information. During the kickboxing training, trainers provide nutritional education to the advanced children group and the advanced youth group. Participants and most parents appreciate this knowledge and this seems to have a positive effect towards the knowledge about healthy eating behaviors.

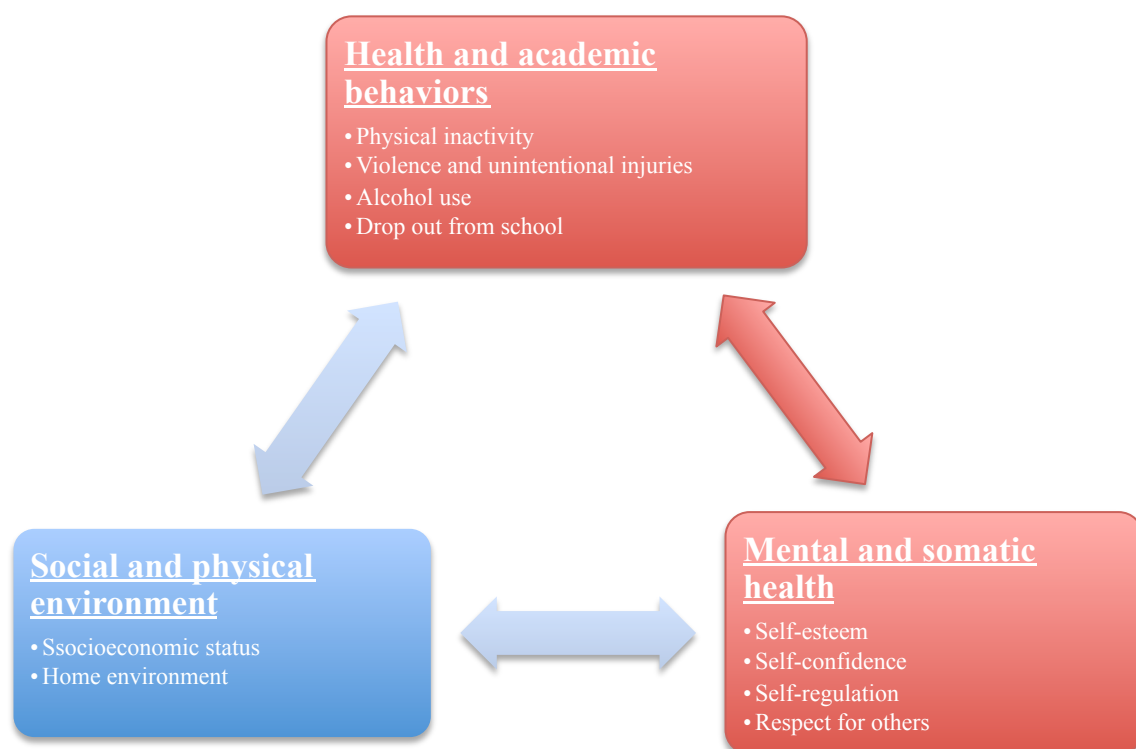


Figure 4. Overview of the influence of martial arts and the relations between the three risk factors of at-risk youth.

In addition, according to our research it seems that kickboxers identify themselves as martial arts participant. No in-groups and out-groups exist in the advanced youth group, since everyone behaves according the rules and norms set by the trainers. In this study did not came forward clearly how kickboxers compare themselves to other groups, but it seems that they identify themselves as tough persons.

The trainers provide a lot of social support towards youth, especially in the advanced children group and the advanced youth group, but do not seem to socially support each other. Therefore, Kickboxing Arnhem does not seem to have a social network. Because there are hardly other functions served except providing support.

There is bonding and bridging within Kickboxing Arnhem. Bonding happens at all groups and bridging was mainly encountered at the competitive group. The competitive group shows that different classes and races within those groups bridge. However, no bridging has been found towards other sport communities or the neighborhood in this thesis.

### **Practical recommendations**

By means of the ecological model (Figure 3, section 2.2) some practical recommendations will be discussed for the individual, interpersonal, organization and community levels. First of all at the individual level, kickboxers belong to this group. Kickboxing has positive effects on self-confidence, self-regulation, respect for others and shape and strength. If one of these factors need to be improved, kickboxing can be the right solution.

Secondly, the parents and trainers can be seen as acting on the interpersonal level. They are important in de coaching of youth, for instance stimulating to keep going to training, explaining about norms and values and providing knowledge about healthy food behavior. Especially youth athletes in sports which utilize weight categories, for example kickboxing, can benefit from improved healthy food behaviors (Sundgot-Borgen & Torstveit, 2010). Research shows that exercising for sport competition in youths will change the needs of acute nutrients (Petrie, Stover and Horswill, 2004). Therefore, parents and trainers should socially support youth with, for example, health and academic behaviors. Trainers and parents can have a crucial role for at-risk youth.

Thirdly, Kickboxing Arnhem is the organization level together with other (sport) schools. Kickboxing Arnhem can use these results in favor. All trainers utilize discipline and the same values and norms in the gym. As a result, youths know how they should behave otherwise they can get punished. Besides, they are on the right track in terms of social

support to youth. Therefore, Kickboxing Arnhem should continue with this approach toward youth, because they are really helpful to them.

In addition, kickboxing Arnhem could transmit the approach of their social support to other (sport) schools in the neighborhood. Thus, other (sport) school could possibly learn from their approach toward youth. Trainers should implement the same values and norms from the youngest group to the oldest group for all kickboxers. This will provide a clear atmosphere in the gym. Furthermore, Kickboxing Arnhem could contact the neighborhood coach of Arnhem Klarendal. Kickboxing Arnhem can have influence on the neighborhood and can help possibly at-risk youth, but to get to this youth Kickboxing Arnhem should cooperate with the neighborhood coaches of Arnhem Klarendal.

Lastly, the neighborhood Arnhem Klarendal and the municipality can be seen as the community level. This thesis is part of a bigger project of Kenniscentrum Sport. This means that five single case studies will be performed at different places. Therefore, afterwards it is possible to validate the outcomes and draw stronger conclusions. Together with the results of the five other single case studies, this could form the foundation of an intervention. Kenniscentrum Sport administers a database of acknowledged interventions (Effectief Actief, n.d.). This thesis could be part of a possible intervention. After the intervention is acknowledged, municipalities and the neighborhood Arnhem Klarendal could use martial arts to help at-risk youth.

## **6.2. Strength and limitations**

This study showed the value of kickboxing for at-risk youth of Klarendal. However, this is an explorative single case study. The drawback of a single case study is the difficulty to provide a generalizing conclusion (Zainal, 2007). Therefore, this study could be an exceptional case. This could give an analytical bias, because only one researcher evaluated the results for this case. Nevertheless, the coding is done in Atlas.ti, which is very accessible and it was a time-consuming process. The data has been checked multiple times with the codes and the results show repetition for different stakeholders. Therefore, the results show a degree of certainty.

Additionally, two of the trainers are former world champions. As a result, kickboxers have already a lot of respect for them and it seems that youth join Kickboxing Arnhem because they want to become a champion. The level and training intensity at Kickboxing Arnhem seems therefore high. Besides that, two trainers have a business where they help youth to make them more defensible. That could be a reason why these trainers have so much tendency to socially support and educate youth. It is already part of their job during the day.



However, this also shows the conditions trainers use to make kickboxing valuable for youth, since this seems to be a best practice.

Furthermore, The majority of the interviewed participants are underage. Only 3 of the 13 interviewed kickboxers are older than 14 years. This could be a reason why the topics about alcohol use, drug use and smoking are not discussed a lot or only discussed superficial. Besides, no 'real' at-risk youth have been encountered at Kickboxing Arnhem. Hardly any of the youths are training there who have a low socioeconomic status, are dropout on school and/or do have a criminal past. This could be due to the fact that Kickboxing Arnhem is more expensive compared to other kickboxing schools in Arnhem. Whereas at Kickboxing Arnhem youth pay 30 euros per month until they are 15 years old and 40 euros per month from the age of 15, at other kickboxing school this all around 25 euros per month.

In the end this could lead to selection bias, because the intended at-risk youth is not analyzed. The kickboxers and trainers are maybe no representative selection. Thus, no youth has been interviewed who drop out from school, had a criminal past or live in Arnhem Klarendal. Nevertheless, this study interviewed some people who were bullied in the past or had troubles controlling their anger. Kickboxing got them an increased self-confidence and self-regulation. Therefore, if these values already are perceived by these youth it could definitely be valuable for 'real' at-risk youth.

Lastly, it remains unclear whether the nutritional knowledge actually increased, since no specific nutritional knowledge tests have been done. Some kickboxers and parents said that they changed their eating habits towards more healthy nutritional behavior, however whether they have more knowledge is not completely clear. In addition, trainers mentioned that youth gave them feedback about their improved eating habits. Nevertheless, it could be that the nutritional knowledge is still too low even though the trainers provide some education on nutrient intake. Thus, the effectiveness of the nutritional tips is unclear and maybe not sufficient enough to actually conclude that the nutritional knowledge increased.

### **6.3. Future research**

This thesis shows the value of martial arts for mental and somatic health and some health and academic behaviors, but it is good to be careful. It could definitely have value for an intervention, but before that is possible more research should be done to guarantee the quality and effectiveness of the intervention. Therefore, more single case studies regarding this study should be conducted. Afterwards the single case studies can be compared to give more body to the outcomes. Besides, future research could also have a different design, for example an

experimental group and a control group. One variable factor, for example respect for others, can be investigated for kickboxers and the control group.

Moreover, for this study it was hard to draw strong conclusions for the effect of martial arts towards social and physical environment factors. Therefore, future research should investigate locations where participants train who are from low socioeconomic status families and/or broken families. Thereby, future research should include, for example youth who drop out of school, have a criminal background or have troubles because of broken families.

In addition, future research should focus on the role of trainers. The trainers seem to have an important role in the outcomes of kickboxing. Improved self-confidence, self-regulation and respect could be due to the trainers and not kickboxing itself. Therefore, it is not completely clear whether the effects are due to kickboxing or to the trainer. Also literature suggests that trainers have an important role in prosocial behavior of youth (e.g. Rutten et al., 2007; Spruit, Assink, Van Vugt, Van der Put & Stams, 2016). Future research can be a comparative case study with another sport. In the end it is possible to compare the role of the trainer and the outcomes of the sport.

Such study should focus on the interaction between youth and trainer could be more elaborated. Secondly, the pedagogical behavior of the trainer could be investigated. Lastly, research could focus on the diploma regulation of martial art teachers. At the moment it is not obligated to have a diploma. It could be examined what the benefits are of having a diploma and there could be looked whether this is only beneficial for martial arts or for more sports who have to deal with children. In line with a diploma, it should be investigated whether kickboxing should get a guild. So, when trainers are not performing according the rules they could get precluded, since you learn people fighting techniques. This could give more impact to the question whether the values of kickboxing could also be valid for other sports. Thus, that the role of the trainer is more important than the sport itself.

Lastly, the nutritional knowledge of youth should be examined with an experimental design to investigate whether the nutritional knowledge really increased. So, if trainers provide tips about healthy nutritional behavior, then the nutritional knowledge increases? The results of this study are based on the perceptions of youth and parents and feedback trainers got from them. Therefore, there should be more research towards the effectiveness of the nutritional tips.

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## Appendix A: Observation scheme

In this appendix one example of the observational scheme will be shown. This will give the idea of the observation schemes and what the interesting observations were. In total five different kickboxing groups were observed on the Mondays. First of all, the advanced children group in the age from 7 to 12 years old. Secondly, the advanced youth group in the age from 12 to 16 years old. Thirdly, the competitive group from 16 years old. Fourthly, the recreation beginners group from 16 years old. Lastly, the recreation advanced group from 16 years old.

### A.1. Observations November 7, 2016: Advanced youth group

This was the very first time I came to kickboxing training in Arnhem. I entered a relatively new building where multiple (sport) organizations are located. On the second and at the same time last floor was the entrance to Kickboxing Arnhem. There were two rooms at the right and two big sport rooms, one for Kickboxing Arnhem and one for dancing. Besides, there were two dressing rooms, one for male and one for female. At the right corner of Kickboxing Arnhem was a boxing ring and the floor was covered with mats. On the left were mirrors all over the wall with in front several punching bags. This was the same at other side (Figure 5).



Figure 5. Impression of the room where the kickboxing training is given.

During the session with the advanced youth group I actively participated with the group of youth in the age of 12 to 16 years old. At this first session I explained in the beginning that I investigate martial arts. Just to inform them I was a stranger and investigating kickboxing. However, I did not tell them anything specific about the research I am doing and kept that as more vague. Besides, I explained that the best way to experience kickboxing was to participate during martial arts trainings. Therefore, I joined them during the training. The observations can be found in Table 4.

**Table 4. Observational scheme of the advanced youth group on 7 November, 2016.**

<b>Feature</b>	<b>Observation(s)</b>
<b>Number of martial arts participants</b>	18 (excluded myself)
<b>Ratio male vs. female</b>	8 vs. 10 (excluded myself)
<b>Interaction youth (verbal and non-verbal) before, during and after the training</b> <ul style="list-style-type: none"> <li>- <b>How do they speak</b></li> <li>- <b>Use of language</b></li> <li>- <b>The way they greet</b></li> <li>- <b>The way they look</b></li> <li>- <b>The way they touch</b></li> <li>- <b>Groups</b></li> </ul>	<p>Before the training started they talk to each other. They wait in the hallway just in front of the kickboxing room.</p> <p>I observed that the girls were standing and talking with each other and that the boys were standing and talking with each other. Besides the two youngest boys were talking, I estimated them at the age of 12 which I got confirmed of at least one of the boys. And the four older boys, who were around the age of 14 because I asked two of them. They greeted each other with a box (with the hand is made a fist and that is placed to each other).</p> <p>I did not observe how the girls greeted each other as well as the two boys of 12, because they were already waiting in the hallway when I changed my clothes. The four boys of around the age of 14 talked Dutch and street language, whereas the boys of 12 just talked Dutch. As far as I could observe were the girls also talking in Dutch. They looked relaxed.</p> <p>When they touch each other, it is only because of the exercise. You have to make couples, were boys and girls can be mixed. However, I observed that most of the boys took someone from their own age, length, as</p>

well as the girls. I was the only one in the group who was a mixed couple for the coupled exercises.

You come to exercise, so all the kickboxing participants are very focused on the exercises. It is expected that you shut your mouth and focus on the exercises that are given, since everyone is in the advanced group. Thus, during the training there are no conversations. The only one who is talking is Trainer. During the training there is not only attention on learning to fight, but also to get more defensible. Values and norms are very important. At least one kickboxing participant nodded his head, so seemed to agree. At the end of the training Trainer told the group that she disliked to act like a policeman. However, sometimes it is necessary. She found it very good to see that after the second sermon everyone was focused on the exercises. Lastly, she told the group to eat correctly and sleep enough. That is the only way to recover.

After the training kickboxing participants talk about the training or of hobbies. I talked with one guy about the match of Badr Hari vs. Rico Verhoeven, which is at December 10, 2016. He told me that he liked Badr Hari more, because he is a real fighter. He also said that he thinks that most of the Dutch people favor Rico Verhoeven and most immigrants favor Badr Hari. I asked him why he liked Badr Hari more than Rico Verhoeven, he replied by saying that Badr Hari is more a fighter who wants to knock out someone, whereas Rico Verhoeven fights more on technique and scoring points. Before he started with kickboxing he was playing football. He quit playing football because he was too fat at that moment and could not really fit into the team. For that reason he started kickboxing and lost

	already a pretty some weight. But he still likes to watch football.
<b>Behavior relative to the trainer</b>	<p>There is a lot of attention to the values and norms of the youth. At the beginning one boy was not paying attention when Trainer was talking. She asked for respect when she was talking, so he had to sit in the correct way and look at Trainer when talking. Without saying anything he improved his attitude and started paying more attention when Trainer was speaking. Afterwards, the training has been hold up twice, because at the first time people were not blocking in the right way. While not blocking correctly, the attacker can be injured. Trainer was very pissed about this fact and addressed this in a strict and clear way. The kickboxing participants did not react verbally to the trainer, but non-verbally they seemed to agree. The second moment was about financial perils. 40 people were not paying for their lessons and that is not what Trainer wants to learn them. It is like going to a restaurant and leaving without paying, you do not do that! One boy started to defend himself and said that he paid everything. Trainer told them that she does not blame anyone at the moment, so if you had paid, there is no problem at all. The boy seems to feel released. There is a lot of respect for the trainer, you wait until Trainer says that you can speak and no protest is given.</p>
<b>How do they train (serious vs. fun)</b>	Very serious, there is no space for fun. During the training everyone had to keep their focus on the exercise.
<b>Do they eat or drink in between or after</b>	There was no one who drank in between the training. I saw at least one guy drinking water after the training.
<b>What are the conversations between the children</b>	Before the training I could not really hear what the people were talking about. I was more focused on the

<ul style="list-style-type: none"> <li>- School</li> <li>- Nutrition and lifestyle</li> <li>- Hobbies</li> </ul>	language they used for several people. During the training no one was talking. After the training I mostly talked to one guy about kickboxing and other hobbies.
<b>Change clothes at location or at home</b>	The children changed their clothes when they arrived at the training. Everyone took their bags into the kickboxing room, because one boy said that there were stolen some property of people.
<b>Taking a shower after the training</b>	No people took a shower after the training, they only changed their clothes or put on a tracksuit. I was the only one who took a shower.
<b>Present at the right time</b>	Yes, everyone.
<b>Others present</b>	Yes. Fred Royers was participating in the training, since one boy left earlier due to sickness. Besides, there were 6 parents attending the training. One time the parents were asked to shut their mouth, so the kickboxing participants could focus on their exercise.
<b>What does the atmosphere feel like</b>	The atmosphere felt relaxed, but very focused at the same time.
<b>Is this the only moment they meet</b>	The guy I spoke to after the training told me that he also trained at Wednesday and Thursday. I am not sure whether the other participants train as well on those two days, but it seems to be.

## Appendix B: General overview of interviewees

### B.1. Related interviewees towards martial arts

In Table 5 are given the interviewees who are related towards martial arts, respectively kickboxing. These people are in such way related to youth they could have influence on the youth's behavior. The initial plan was to interview a neighborhood policeman as well, however they did not want to participate due to classified information. All the interviews were done face to face at MFC Klarendal. Among others, Kickboxing Arnhem and neighborhood coaches are located at this center.

**Table 5. The socio-demographic characteristics of the interviewed persons related to martial arts.**

Relation to martial arts	Age	Date
Owner & trainer Kickboxing Arnhem	61	12-12-2016
Co-owner & trainer Kickboxing Arnhem	40	12-12-2016
Trainer Kickboxing Arnhem	28	14-12-2016
Neighborhood coach Arnhem Klarendal	Unknown	28-11-2016

### B.2. Martial arts parents and practitioners

In Table. 6 are given the interviewees, the parents of the martial arts practitioners. Table 7 shows the martial arts participants who were interviewed. The parents are a mother or father of the interviewed martial arts practitioners. All the interviews were done face to face at MFC Klarendal. Among others, Kickboxing Arnhem is located at this center.

**Table 6. The socio-demographic characteristics of the interviewed parents.**

Parent	Age	Date
Mother	48	28-11-2016
Mother	38	28-11-2016
Mother	44	01-12-2016
Mother	38	08-12-2016
Father	38	30-11-2016
Father	38	30-11-2016

**Table 7. The socio-demographic characteristics of the interviewed kickboxers.**

<b>Kickboxer</b>	<b>Age</b>	<b>Date</b>	<b>Training group</b>
<b>Kickboxer girl</b>	14	28-11-2016	Advanced youth group
<b>Kickboxer girl</b>	11	28-11-2016	Advanced youth group
<b>Kickboxer boy</b>	11	01-12-2016	Advanced youth group
<b>Kickboxer girl</b>	13	14-12-2016	Advanced youth group
<b>Kickboxer boy</b>	11	30-11-2016	Advanced youth group
<b>Kickboxer boy</b>	12	08-12-2016	Advanced youth group
<b>Kickboxer boy</b>	14	28-11-2016	Advanced recreation group
<b>Kickboxer girl</b>	16	28-11-2016	Advanced recreation group
<b>Kickboxer boy</b>	14	30-11-2016	Advanced youth group
<b>Kickboxer boy</b>	16	30-11-2016	Competitive group
<b>Kickboxer boy</b>	12	01-12-2016	Advanced youth group
<b>Kickboxer boy</b>	20	12-12-2016	Competitive group
<b>Kickboxer boy</b>	17	14-12-2016	Competitive group



## Appendix C: Interview questions

### C.1. Gym owner

*Naam:*

---

*Leeftijd:*

---

*Locatie sportschool:*

---

*Naam sportschool:*

---

*Hoe lang beoefen je de sport:*

---

Vragen:

1. Hoe lang heeft u uw sportschool al?
2. Waar is uw sportschool? Is daar bewust voor gekozen?
3. Waarom bent u begonnen met de sportschool?
4. Wat is uw visie op kickboksen (vechtsport)?
5. Wat wilt u bereiken met trainingen?
6. Wat denkt u dat het effect is van vechtsport(trainingen) op de jongeren?
7. Heeft u aandacht voor jongeren die het moeilijker hebben?
8. Wat verstaan jullie onder risicjongeren? (Of gebruiken jullie een andere term?)
9. Wat voor type gedragingen horen daarbij? En wat zijn de risicofactoren?
10. Hoe kun je deze groep het beste benaderen?
11. Zijn er criteria voor aanmelden?
12. Weet u wat er speelt binnen de groepen die kickboksles volgen?
13. Heeft u buiten het kickboksen om contact met jongeren die op de sportschool komen?
14. Heeft u contact met de buurt en gemeente (buurtpolitie, buurtcoach, gezinnen uit de wijk)?

### C.2. Martial arts trainer/coach

*Naam:*

---

*Leeftijd:*

---

*Naam sportschool:*

---

*Hoe lang beoefen je de sport:*

---

Vragen:

1. Hoe lang bent u al werkzaam in deze sportschool?
2. Waarom bent u begonnen als trainer/coach?
3. Hoe bent u bij deze sportschool terecht gekomen?
4. Wat is uw visie op kickboksen (vechtsport)?
5. Wat wilt u bereiken met trainingen?
6. Wat denkt u dat het effect is van vechtsport(trainingen) op de jongeren?
7. Heeft u aandacht voor jongeren die het moeilijker hebben?
8. Wat verstaat u onder risicjongeren? (Of gebruiken jullie een andere term?)
9. Wat voor type gedragingen horen daarbij? En wat zijn de risicofactoren?
10. Hoe kun je deze groep het beste benaderen?
11. Wat vindt u belangrijk tijdens de lessen?
12. Wie geeft u les en hoeveel groepen zijn dat?
13. Weet u wat er speelt binnen de groepen die kickboksles volgen?
14. Waar richt de training zich op, bijvoorbeeld meer op individuele vaardigheden of team/sociale vaardigheden?
15. Merkt u dat bepaalde jongeren met elkaar optrekken tijdens de lessen? En buiten de lessen?
16. Heeft u buiten het kickboksen om contact met jongeren die op de sportschool komen?
17. In hoe verre heeft u aandacht voor zaken die niet direct met kickboksen te maken hebben, zoals gezonde voeding en levensstijl?
18. Hoe is de regeling (diploma's voor trainers of binnen kickboksen en kan daarin iets verbeterd worden?

### C.3. Neighborhood coach

*Naam:*

---

*Leeftijd:*

---

*Locatie en wijk:*

---

Vragen:

1. Hoe lang bent u al werkzaam als buurtcoach en specifiek in deze wijk?
2. Wie/wat was er eerder, de vechtsportschool of u als buurtcoach?
3. Wat is uw visie op vechtsport (kickboksen)?

4. Wat hoopt u dat er wordt bereikt met trainingen?
5. Wat denkt u dat het effect is van vechtsport(trainingen) op de jongeren?
6. Heeft u aandacht voor jongeren die het moeilijker hebben?
7. Wat merkt u van de vechtsportschool?
8. Heeft de vechtsportschool invloed op de wijk? Zo ja, wat dan?
9. Hoe wordt er door de buurt (Klarendal en omstreken zelfs) over de vechtsportschool gepraat?
10. Merkt u verschillen tussen jongeren die aan vechtsport doen en jongeren die een andere sport beoefenen?
11. Wat verstaan jullie onder risicjongeren? (Of gebruiken jullie een andere term?)
12. Wat voor type gedragingen horen daarbij? En wat zijn de risicofactoren?
13. Hoe kun je deze groep het beste benaderen?

#### C.4. Martial arts practitioners

*Naam:*

*Leeftijd:*

*Woonplaats:*

*School:*

*Hoe lang beoefen je de sport:*

Vragen:

1. Volg je kickboksen een beetje? Wie gaat er winnen? Badr Hari of Rico Verhoeven?
2. Hoe lang doe je al aan kickboksen (vechtsport)?
3. Kijk je er naar uit om te gaan kickboksen? Wat vind je leuk aan kickboksen (vechtsport)?
4. Wat vind je niet leuk aan kickboksen (vechtsport)?
5. Waarom ben je begonnen met kickboksen (vechtsport)?
6. Wat heeft het kickboksen met je gedaan, wat heeft het opgeleverd?
7. Ben je veranderd door het beoefenen van kickboksen (vechtsport)? (Meer zelfvertrouwen? Meer beheersing?)
8. Wat mij is opgevallen bij lessen is dat je gefocust moet zijn. Praten wordt niet echt gewaardeerd. Had jij daar ook last van in het begin? Hoe denk je daar nu over?

9. Ben je door de sport bewuster gaan leven, gezondere levensstijl (gezondere voeding, niet roken, minder tot geen alcohol)? Voor de wedstrijd vechters: gebruik jij of worden er prestatie bevorderende middelen gebruikt?
10. Heb je wel eens ruzie met je broer(s) en/of zus(sen)?
11. Heb je wel eens gevochten waarbij je kickboks technieken hebt gebruikt?
12. Heb je vrienden bij je kickboksgroep?
13. Trek je veel met dezelfde mensen op of is dat verschillend?
14. Zie je die ook buiten de trainingen om?
15. Zijn er groepjes binnen je kickboksgroep?
16. Hoe is je trainer/coach? (Hoe beschrijf je de manier van lesgeven: soft of streng of een combinatie? Hoe belangrijk is de trainer in het blijven komen naar de lessen, je tevredenheid over het kickboksen?)
17. Doet hij/zij meer dan alleen training geven? Soms tips voor op school bijvoorbeeld?
18. Welke school zit je? En in welke klas zit je? (Hoe zijn je prestaties en ben je wel eens blijven zitten?)
19. Wat vinden je ouders ervan dat je doet kickboksen?
20. Hoe betrokken zijn je ouders? Hoe laten ze dat zien?
21. Zijn je ouders nog bij elkaar?
22. Weten andere jongeren op je school dat je kickbokst? Wat vinden die ervan dat je kickbokst?
23. Doe je nog andere sporten? Zo ja, wat is het verschil tussen kickboksen en \*die andere sport\*?

### **C.5. Parents of the interviewed martial arts practitioners**

*Naam:*

*Leeftijd:*

*Woonplaats:*

*Ouder van:*

Vragen:

1. Wat is uw visie op vechtsport (kickboksen)?
2. Wat hoopt u dat er wordt bereikt met trainingen?
3. Wat denkt u dat het effect is van vechtsport(trainingen) op de jongeren?

4. Waarom is uw kind op kickboksen gegaan?
5. Kijk uw kind er naar uit om naar kickboxtraining te gaan?
6. Wat vindt u ervan dat uw kind aan kickboksen doet? Hoe toont u betrokkenheid?
7. Heeft u contact (gehad) met de sportschoolhouder en kickbokscoach/trainer voordat uw kind begon?
8. Wat merkt u door de kickbokstraining aan uw kind? (Hoe doet uw kind het op school? Luistert hij ook beter thuis?)
9. Merkt u dat uw kind door kickboksen anders is gaan leven, gezonder (meer op voeding letten, niet roken, minder tot geen alcohol drinken)?
10. Trekt uw kind veel met jongeren van de kickboksschool op of ook/ meer met andere jongeren?
11. Wat is de reactie van andere mensen op uw kind dat aan kickboksen doet?