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ADAPTED PHYSICAL ACTIVITY AS A FOCUS IN BACHELOR'S  
THESES IN PHYSIOTHERAPY EDUCATION IN SAMK

Degree Programme in Physiotherapy

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The aim of this study was to examine how adapted physical activity in general is reflected in the bachelor's theses of SAMK physiotherapy education. Thesis is a way of transferring expertise from universities to working life, and adapted physical activity has a special importance in the training of physiotherapists in SAMK.

The research was carried out by examining the abstracts of bachelor's theses written about adapted physical activity in physiotherapy education in 1997-2009 in SAMK. The data were analysed by using inductive and deductive content analysis. In the analysis, categories were made based on data as well as based on theory. Furthermore, quantitative analysis was carried out through counting the frequencies and percentages. The analysis concentrated on: working life relations, fields of APA, target populations and types of theses.

The results showed that 57 bachelor's theses in physiotherapy education were focused on adapted physical activity and 21% of these were written in English. Based on the results, 72% of the theses had a co-operational partner. Most of these (45%) were institutions of social services and health care. It was also discovered that 57% of co-operational partners were located in Pori, 33 % in other municipalities in Finland, 6% were national and 4% were international. Most theses (56%) were concentrated on rehabilitational exercise, which is the physiotherapists' main area of expertise. Furthermore, no studies were focused on top sports or competitive sports. According to the study, 70% of the theses were carried out as a research, 25% were operational and 5% had features of both types. Based on these results it can be said that physiotherapy education can influence the regional, national and even international development of adapted physical activity.

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## 1 INTRODUCTION

It has been estimated that even fourth or fifth of the population in Finland have difficulty in participation of generally available physical activity and demand adaptations in their exercise. This might be due to a social situation, illness, disease or additional decrease in functional ability. (Ala-Vähälä 2010, 7-8; Koivumäki 2010, 3.) This group of people should have equal possibilities to engage in physical activities and gain the positive benefits of physical activity (Mälkiä & Rintala 2002, 6-7). The sports legislation set in 1998 supports this view (Liikuntalaki 18.12.1998/1054.1§).

It is known that an adequate amount of physical activity may improve the work ability and functional ability as well as psychological and social wellbeing of special groups even more significantly than in normal population (Terveyttä edistävän liikunnan kehittämistoimikunnan mietintö 2001, 2001:12; Erityisryhmien liikunnan käsitteistö 2003, 6). Physiotherapists have an important role in activation of children with disabilities, active rehabilitation in institutions of social services and health care, improvement of special education in schools, co-operation with the municipalities and the organization and instruction of group exercises in health care centres (Koivumäki 2010, 11).

Adapted physical activity [APA] has a specific importance in the training of physiotherapists at Satakunta University of Applied Sciences [SAMK] in Pori. The uniqueness of implementation of teaching carried out in close collaboration with working life was acknowledged nationally by a personal award for the lecturer (Website of Finnish Sports Federation). In SAMK, at least 5 credits of APA are completed by each physiotherapy student. Bachelor's thesis is compulsory for all students studying on a bachelor level. It comprises 15 credits and its aim is to develop and demonstrate the students' ability to apply theoretical knowledge to working life.

This bachelor's thesis is a qualitative study in which the bachelor's theses that concentrate on APA are being studied. Co-operational organizations and relations to

working life are being evaluated in this study. Furthermore, the distribution of the age of the target groups and distribution of research subjects of the thesis between different areas of APA are being studied. It is also studied whether the theses focus on research or on operational aspects. The analysis is made by examining the abstracts of the Bachelor's theses. The outcome of this study presents how APA is integrated to physiotherapy education and demonstrates the role of physiotherapists in research and development of APA locally and nationally.

## 2 ADAPTED PHYSICAL ACTIVITY [APA]

### 2.1 Definition

The term adapted physical activity (in Finnish: soveltava liikunta) was first introduced in Finland in 1981 when the Ministry of Education defined it as exercises for people who for an illness, disability or limited functional ability have difficulty in having enough physical activity and difficulty in use of public physical activity services, or to whom physical activity has a special rehabilitational or health related benefits (Erytisryhmien liikuntatoimikunnan mietintö 1981). Since then, the term has been slightly modified. The definition by Erytisryhmien liikunta 2000-commission (Erytisryhmien liikunta 2000- toimikunnan mietintö 1996) is exercise for individuals who for an illness, disease or an additional decrease in functional ability or due to a social situation have difficulty in the participation of the generally available exercise and whose exercise demands adaptations and special knowledge. The change in attitudes and thinking can be seen in the alteration of the definition;

health and rehabilitation focused concept has been broadened further to constitute social factors as well as adaptations (Mälkiä & Rintala 2002, 6-7).

APA can be further defined as “a professional branch of kinesiology/physical education/ sports and human movement sciences which is directed towards persons who require adaptation for participation in the context of physical activity. “ From the sports science perspective, APA is “research, theory and practice directed toward persons of all ages underserved by the general sport sciences, disadvantaged in resources, or lacking power to access equal physical activity opportunities and rights. APA services and supports are provided in all kinds of settings. Thus, research, theory and practice relate to the needs and rights in inclusive as well as separate APA programs". (Sherrill & Hutzler 2008, 90-103.) This definition is also used by the International Federation of Adapted Physical Activity (Website of IFAPA 2010).

The term adapted physical activity may include, but is not limited to recreational and leisure activities, competitive sports, health exercise and rehabilitation and inclusive/special physical education and consists of individual as well as group activities. Therefore, APA can be characterized as activities that take into consideration the interests, skills and needs of the individual. Adaptations are often provided with special equipment designed to serve the needs of an individual or sport, modified rules and task criteria as well as appropriate environment and instruction methods. (Sherrill & Hutzler 2008, 90-103.)

Although APA can be rehabilitative, the difference to physical therapy is that it is self driven and aims at excellence and mastery of the activity or sport. Therefore, it is dedicated to the concepts of “empowerment and ecological validity”. (Sherrill & Hutzler 2008, 90-103.) In this context, dedication to empowerment also means that the goal in APA is a full participation in communal functions (Mälkiä & Rintala 2002, 7).

## 2.2 Target population

Even fourth or fifth of population in Finland meet the criteria of being in the target group of APA (Ala-Vähälä 2010, 7-8). Thus, the term is most often used to describe exercise for the disabled, but the principles may also apply to other population such as obese, aged or any other individual who has restriction in the participation to normal exercise (Sherrill & Hutzler 2008, 90-103). That is the disabled, the people suffering from long term illnesses and some of the elderly. There are no specific guidelines as to when a disability or a long term illness disturbs the normal activity so much that it requires adaptations and special expertise in the instruction. (Ala-Vähälä 2010, 7-8.) All exercise for the elderly cannot be described as APA, the commonly used criteria is that the elderly person must also have a disability or a long term illness. Often there is no special diagnosis but there is a decreased functional ability which meets the criteria for the use of term APA. (Erityisryhmien liikunnan käsitteistö 2003, 7.) In addition, drug or alcohol abusers and criminals are often for social reasons unable to participate in public physical activity services (Terveystä edistävän liikunnan kehittämistoimikunnan mietintö 2001).

The exact quantity of the people that belong to the APA group can neither be measured because some of the people belong to more than one subgroup (Erityisryhmien liikunnan käsitteistö 2003, 7). The formation and the number of target population are presented in table 1.

Table 1. The number of people in target population of APA in Finland in 2010 (Koumumäki 2010, 3)

| Target population   | Number    |
|---|-----------|
| The elderly on pension  | 800.000   |
| The elderly on disability pension   | 300.000   |
| The disabled (mentally disabled, physically disabled, visually impaired)    | 500.000   |
| The chronically ill (vascular disorders, asthma, rheumatoid arthritis etc.) | 1.000.000 |

### 2.3 Fields of APA

APA can be divided into five main categories: rehabilitation, adapted physical education, recreation, competitive sports and top sports. Rehabilitation is mainly organized in institutions of social services and health care. (Koivumäki 2010, 6-15.) Adapted physical education is a part of physical education in schools and every pupil should have a possibility for physical education despite disabilities. Recreational APA is usually organized by physical activity boards in municipalities as well as by sports clubs. Top sports and competitive sports are usually organized by the Paralympic committee and other APA organizations that get state fund. Suppliers of APA are discussed in more detail in the next chapter.

Physiotherapists have key role in all fields of APA. The role of physiotherapists in APA organizations is to develop rehabilitation services, organize recreational activities, and increase awareness of the conditions and act in co-operation with municipalities to develop functioning APA services. Exact numbers on how large percentages of adapted physical activity instructors are physiotherapists cannot be defined but according to Piispanen (2010); roughly 50-60 percentages of adapted physical activity instructors in municipalities have a physiotherapy education. Their fundamental role is amplified in the activation of children with disabilities, especially in sports such as swimming, downhill skiing and horseback riding. In addition, the assistance of adapted physical education in schools is an important role of physiotherapists. (Koivumäki 2010, 11.) The institutions employ around 100 physical activity instructors and a multiple amount of physiotherapists (Mälkiä & Rintala 2002, 423). Physiotherapists have a fundamental role in active rehabilitation of the patients (Koivumäki 2010, 11).



This classification is used in this study to demonstrate in results what areas of APA have been covered in Bachelor's theses.

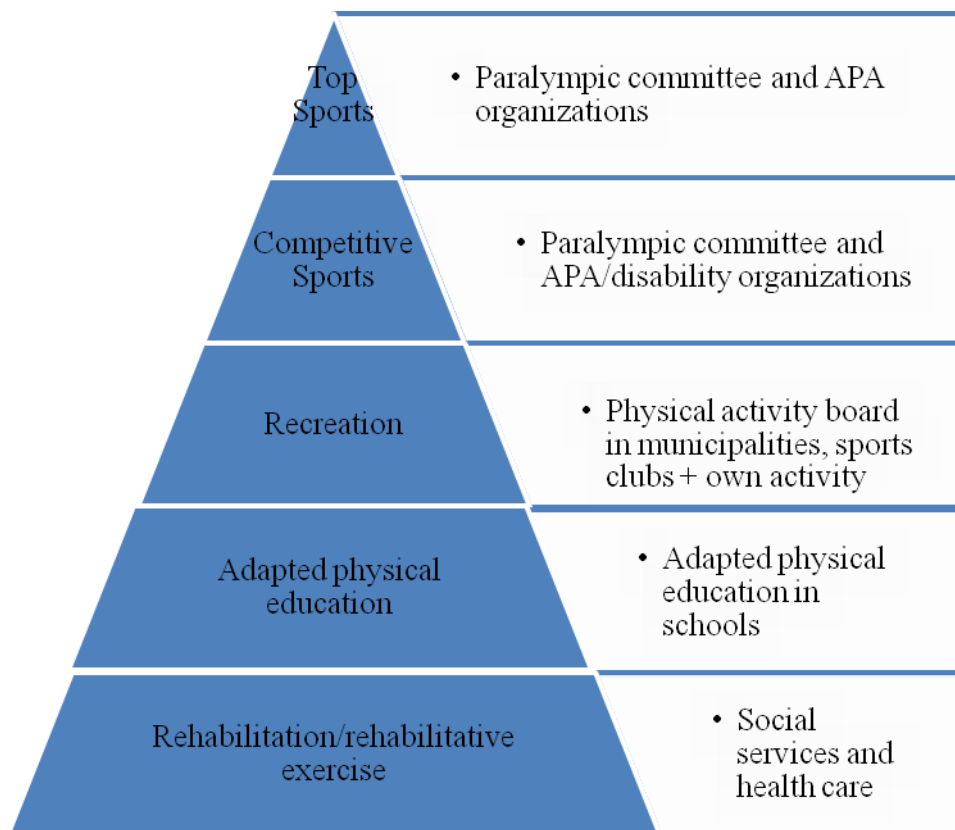


Figure 1. The different fields of APA and their service providers  
( Koivumäki 2010, 6)

### 3 SUPPLIERS OF APA

Organization and supply of adapted physical activity in Finland is mostly arranged by the following three sectors: adapted physical activity organizations, institutions of social services and health care and physical activity organized by municipalities. In addition to these, adapted physical education as a part of physical education in schools for pupils with disabilities or chronic illnesses is a remarkable sector of APA. An estimated 50.000 pupils have a disability or a disease that requires adaptations to physical activity. (Koivumäki 2010, 17; Mälkiä & Rintala 2002, 419-421.)

Sport clubs are becoming more active in organizing APA and the implementation is often organized in co-operation with APA- or disability organizations. Senior departments are becoming more common and some sport clubs have included a department for APA. Wheelchair basketball, tennis, horseback riding, dancing and sailing are some of the forms of physical activity offered for people with disabilities. (Mälkiä & Rintala 2002, 426.)

#### 3.1 Organizations

The role of disability- and adapted physical activity organizations as providers of APA has increased tremendously since the late 1980's in Finland when only 4 disability organizations received financial support from the government. In 2001 there were already 15 organizations that received financial support. (Mälkiä & Rintala 2002, 421-423.) In 1990's the amount of financial support was approximately 67 000 euro's, and in 2010 it was already 3,6 million euro's which is approximately 7% of the total financial support provided for the physical activity organizations (Koivumäki 2010, 13; Mälkiä & Rintala 2002, 421-423). Different organisations organize approximately 25 % of all the group activities for APA target groups (Ala-Vähälä 2010, 24-27.)

The APA organizations in 2010 were; The Finnish Athletic Association of the Deaf, Pulmonary Association HELI, Finnish Central Association of Mental Health, Finnish Rheumatism Association, The Finnish MS Society, Finnish Parkinson Association, Finnish Heart Association, Finnish epilepsy society, Finnish CP Association and The Finnish Federation of physical activity and sport for the Disabled. These organizations have over 3.000.000 members and 29 employees. (Koivumäki 2010, 11-13.)

In addition to these, The Finnish Association of Paralympics, founded in 1994, is in charge of top sports. It is also a member of International Paralympics committee (Website of Finnish Paralympic committee 2010). Furthermore, the following organizations also have physical activity related activities; Allergy- and Asthma Federation, The Finnish Association of Mental Health and The Finnish Neuromuscular Disorders Association (Koivumäki 2010, 12-13). In Finland there are also several organizations for the elderly and pensioners that provide physical activity for the members in their local organization (Mälkiä & Rintala 2002, 421-423).

The most common forms of physical activities provided for the members by these organizations are health enhancing physical activities. Their fundamental task is also to train APA instructors to their local organizations and produce educational material. (Mälkiä & Rintala 2002, 421-423.)

Soveli Ry [Soveltava Liikunta] is a Finnish organization that acts as a co-operational professional organization between the organisations that provide adapted physical activities. It was founded in 1993 as Finnish federation of adapted physical activity [Suomen Erityisliikunnan Yhdistys] and in 2004, the name was changed to Soveli.

Today, Soveli has an important role in promotion of rehabilitative and health enhancing adapted physical activities. Its aims are to increase the equal possibilities of engaging in physical activities, maintenance of physically active lifestyle throughout the life span and promotion of physical activities. Soveli has 15 member organizations that have a key role in prevention of disabilities and illnesses, as well as in promotion of health, rehabilitation and treatment. Member organizations have over 300.000 members and over 1.000 local organizations and clubs. In 2001-2004, Soveli in together with Finnish Federation of the Visually Impaired and Finnish Association

of People with Physical Disabilities implemented a Solia project to create a adapted physical activity assistive aids lending- system to Finland. (Website of Soveli 2009.)

In 17<sup>th</sup> of October 2009, The Finnish Transplant Federation, Finnish Federation of the Visually Impaired, Finnish Association of People with Physical Disabilities and SKLU coalesced to form a new conjunct organization; Suomen Vammaisurheilu- ja Liikunta, VAU. The mission of VAU is to develop, execute and plan physical activity and competition possibilities for the disabled, visually impaired and those who have a transplant. Its domains are top- and competitive sports, organization activity, youth activity and recreational exercise. Furthermore, it is in charge of activities of Special Olympics Finland which is a part of international Special Olympics Federation. VAU has 180 member organizations that promote adapted physical activity. The function of VAU started 1.1.2010. (Website of VAU Ry 2010.)

### 3.2 Institutions of social services and health care

Physical activities occurring in institutions can be considered by nearly all aspects to be adapted physical activity, which makes it a significant environment of the APA (Mälkiä & Rintala 2002, 423). An estimated 50.000 people live in social and health care facilities in Finland, which comprehends approximately 1 % of the population (Koivumäki 2010, 15-16). It was estimated that 14 % of all APA group services are provided by social services and health care (Ala-Vähälä 2010, 24-27.) Table 2. presents how the number of people living in social and health care institutions are distributed between different institutions.

Table 2. The number of people living in institutions of social services and health care divided by different facilities

| Institutions of social services and health care | Number                 |
|---|------------------------|
| Assisted living for the disabled                | 3.000                  |
| Home for the elderly                            | 30.000                 |
| Psychiatric                                     | 6.000                  |
| Disability care                                 | 3.000                  |
| Substance abuse services                        | 3.000                  |
| Rehabilitation institutes                       | No permanent residents |
| <b>Total</b>                                    | <b>50.000</b>          |

### 3.3 Municipalities

The first APA- instructors were hired in municipalities in 1984 when the change in sports legislation enabled financial support from the government (Ala-Vähälä 2010, 6; Liikuntalaki 1146/1983). Nowadays, municipalities are responsible for 40% of the APA group services (Ala-Vähälä 2010, 24-27).

In 2004-2006, 13 municipalities participated in a programme “APA to municipalities” which was a joint project between Finnish Society of Sport Sciences, Department of Education, Ministry of Social and Health Care and Association of Finnish local and regional authorities. The aim of this project was the development of functioning APA services, the increase in co-operation with service providers and the establishment of new APA groups. As a result, the amount of APA in the participating municipalities increased significantly; seven new employers responsible for APA were hired, the number of group activities increased by 56% and the number of people participating in these group activities increased by 76 %. (Piispanen 2009, Website of Finnish Society of Sports Sciences.)

“APA to municipalities 2007-2009” is a continuation to the previous project in which 9 municipalities of over 10.000 inhabitants where APA was in a need of development were invited to join by Finnish Society of Sport Sciences. The encouragement of launch and development of adapted physical activities, the build of new course of action and comprehensive development in municipalities were the main objectives of the project. Furthermore, municipalities were encouraged to include APA in their welfare strategy and plans for the different sectors. (Piispanen 2009, Website of Finnish Society of Sports Sciences.)

As a result of the awareness of the importance of adapted physical activity in municipalities, the APA group activities offered by physical activity board in municipalities have increased. In the beginning of the decade there were approximately 9,0 groups per 10.000 inhabitants and in 2009 there were approximately 11.3. (Ala-Vähälä 2010, 26-27.)

In 2009, the board of physical activity in municipalities and other parties organized adapted physical activities for 140.000-150.000 people which are approximately 14-15% of the estimated target group. In addition to the board of physical activity, some activities were also organized by adult education centre and the board of social and health care. (Ala-Vähälä 2010, 33-34.) There were over 90 APA instructors and approximately 300 adapted group activity instructors in municipalities in 2010. Furthermore, the number of weekly adapted physical activities in groups is app. 3.000 and the number of participants is an estimated 70.000. (Koivumäki 2010, 9.)

The majority of the groups are targeted for the elderly. According to the survey performed in municipalities that have an APA instructor, the number of groups for the elderly was 6.1 per 10.000 inhabitants whereas the number of groups for the other APA target groups were between 0.1- 1.4 per 10.00 inhabitants. Of these, groups for children with special needs (1.0 per 10.000) and groups for the disabled (0.8 per 10.000) represented the bigger number of groups. The survey also concluded that the most common group after the elderly was “the others” (1.4 per 10.000), which is a common group where people can come based on their functional ability, not solely based on a specific disability or a sickness. (Ala-Vähälä 2010, 27-29.) The most

common forms of physical activity are hydrobics, gym training and ball activities (Koivumäki 2010, 9).

## 4 PHYSIOTHERAPY EDUCATION

### 4.1 Definition of physiotherapy

Physiotherapy is based on knowledge of health, movement and functional ability, and it relies on the latest knowledge of physiotherapy science as well as the knowledge from other health related sciences. The title “physiotherapist” can only be used by licensed physiotherapists who have completed the degree. Physiotherapists work with people of all ages at hospitals, health care centres, sport centres rehabilitation centres or as private practitioners. (Website of SAMK 2010.)

In physiotherapy, the clients’ health, functional ability and mobility are being evaluated and treated by guidance, manual and physical therapy, therapeutic exercises and assistive aid services. The aim of physiotherapy is to reach optimal health and functional ability, and guide the clients to take responsibility of their health and functional ability. (Website of Finnish Association of Physiotherapists 2010.)

## 4.2 Education

The Degree Programme in Physiotherapy can be carried out on a bachelor level in 3,5 years during which the required 210 credits should be completed (Opintoluotsi 2010). Physiotherapy can be studied in Finnish in 16 Universities in Finland, as well as in Swedish in Nylands svenska yrkehögskolan and also in English in Satakunta University of Applied Sciences (Website of Koulutusnetti 2009). Each University develops their own curriculum that covers the areas of competence instead of following a national curriculum and the studies cover the common areas of a health care professions as well as profession specific studies. Free electives, practical training, bachelor's thesis and a maturity exam are included in the curriculum. (Kangas 2010.)

Collaboration with working life and enhancement of regional development are important factors in AMK education according to the Finnish Ministry of Education (Ministry of Education 2006; Javanainen-Levonen & Kärki 2007). In SAMK, 15 credits of instruction and promotion of physical activity are compulsory for everyone. Of these, 5 credits concern APA. During these courses the student learns how to plan and instruct physical activity to all age groups by using the principles of didactics and motor learning to his/her advantage. Basics of APA, familiarizing with APA service providers and adapting physical activities and collaborative projects are implemented during the courses. (Satakunta University of Applied Sciences 2008, 11.) Furthermore, in the English degree programme, the international aspect is further amplified by implementation of co-operational projects with local multicultural organizations as well as national and international co-operation projects in the field of APA (Curriculum of Degree Programme in Physiotherapy 3.11.2008, 11). Students also have a possibility to participate in a free elective course; advanced course in Adapted Physical Activity, 3 credits (Satakunta University of Applied Sciences 2009, 24-25).

According to the Health Care education 2005- project, the rehabilitation is nowadays seen as a wide concept, and physiotherapy itself is a part of rehabilitation and exercise, as well as social and health care system. The aims of the physiotherapy were specified as the improvement and maintenance of health, wellbeing and functional



ability of the groups as well as individuals. As one of the main requirements were specified being able to plan and instruct adapted physical activity to various individuals and rehabilitation groups by applying the didactic principles and different methods and forms of exercise. In addition, the project predicts that a few of the biggest challenges in the near future of rehabilitation to be the employment of the disabled and the rehabilitation of the mentally challenged, the elderly and the substance abusers. (Ammattikorkeakoulusta terveydenhuoltoon 2006, 28-32.) Thus, the role of adapted physical activity in the work of physiotherapists will most likely increase.

#### 4.3 Bachelor's thesis

Bachelor's thesis is a compulsory part of studies to all students studying on a Bachelor level. It is usually produced for organizations or communities, and it must be connected to the subject one is studying. It comprises 15 credits and its aim is to develop and demonstrate the students' ability to apply theoretical knowledge to working life. It is usually done quite at the end of studies. (Website of SAMK 2009)

Bachelor's thesis can be focused either on operational aspects or on research. A thesis may sometimes have features of both methods and also some other classifications can be used. However, SAMK instructions on writing bachelor's thesis only feature these two. There are some common features to both types. Both thesis types have "an investigative and developing approach" which means that the theory behind thesis is argued profoundly, that the information is based on reliable sources and that the author evaluates his/her work. Both types also describe the thesis process including methods, aims, results and the use for further research or development on the topic in question. (Website of SAMK 2009).

Research oriented theses include all interviews and surveys which are fairly common. Action research and a developing research as well as different kind of service and marketing surveys belong to this category. Furthermore, service

researches can be considered research oriented even if the aim is to produce a product which is similar to a operational aspect oriented thesis, a consult service product for example.

Theses concerning operational aspects can be considered as projects in which the aim is to produce a new product, a plan, or a prototype, or a new way of working. The product can be a campaign, educational guide, computer programme, video or a multimedia application to name a few. Organization or implementation of an event, happening or a show can also be a topic of the thesis. These kind of projects are demanding and require cooperational skills and often more than one person. A welfare action or a portfolio can also qualify in some cases. (Hakala 2004, 23-27.)

## 5 AIM AND RESEARCH QUESTIONS

The aim of this study is to examine how adapted physical activity in general is reflected in the bachelor's theses of SAMK physiotherapy education. Bachelor's thesis is a way to transfer expertise from universities to working life (Website of SAMK 2009). Therefore, it is a way to influence the development of APA. The amount and type of co-operational organizations in theses may demonstrate the need and interest for local, national and even international development.

The choice of topic for bachelor's thesis can reflect the amount of interest of working in this field. Furthermore, the selection of target group and age group may demonstrate the interest of the students, and the need for development in that area. The number and content of theses concerning APA may show the physiotherapists ability to work in this area.

The following questions will be answered in this study:

1. What is the general depiction of the theses concerning adapted physical activity?
2. What are the relations to working life?
3. Which fields of APA have been studied?
4. Who has been the target population of the thesis?
5. What types of theses have been carried out?

## 6 RESEARCH METHODS

In this study, the data were selected from previous studies, which is common for a qualitative research. This study also has other features of a qualitative research; no hypotheses were set about the results beforehand and discretionary sampling was used to gather the data. (Eskola & Suoranta 1998, 16-24, 118-122.) The data were analyzed by using inductive and deductive content analysis. The categories were made data driven and also based on former theory. In content analysis, the researcher determines a set of categories and counts the number of instances that belong to each category (Silverman 2001, 123-124). Therefore, also quantitative method was also carried out through counting the frequencies and percentages in each group.

## 6.1 Data collection

The data was collected from the SAMK faculty of Social services and health care Pori library. To find all the relevant theses, the library database Tyrni- search engine was being used. In January 2010, an appointment was made with the SAMK faculty of social services and health care Pori library to determine the best methods of finding the APA related bachelor's theses. The library staff suggested the use of advanced search in the library database Tyrni- search engine by using APA related search words such as "adapted physical activity" or "erityisliik?". However, I found this to be unreliable as not all APA related theses were labeled with these search words. The library staff also told that the library does not have a list of bachelor's theses done in physiotherapy education.

The search was conducted with library database Tyrni by using the Online Catalogue list of bachelor's theses "opinnäytteet" with a limit "only Tiilimäki Pori" which is the faculty of social services and health care. This search gave 2057 items. The use of the bachelor's theses in English with a limit "only Tiilimäki Pori" gave 59 items. These results included all the theses written in SAMK faculty of social services and health care. The results were examined and all the names of the theses that could be somehow related to APA were listed. Furthermore, the list of the names of the theses did not show from which degree programme they were, so that had to be checked by opening a tab from each APA related thesis to check if they were from physiotherapy degree programme. Some theses that were written in 2010 were found but they were excluded. The lists were gone through twice to improve the reliability. The library section of bachelor's theses was also searched manually in case some theses had not been found with the search. However, it was discovered that all the theses were found. In the end, 57 bachelor's theses were considered eligible for this study (appendix 2). The abstracts of the bachelor's theses were copied and analyzed.

## 6.2 Data analysis

Content analysis was used to evaluate the data. The theses were chosen and information was gathered based on abstracts and the titles of the theses. Each research question was handled separately. For example; when working life relations were examined, each abstract was searched for a co-operational partner. In case it was found, it was written on the paper. The results were analyzed after all the abstracts were gone through and then they were divided into categories. This principle applies to all research questions.

*Inductive content analysis.* In this study, all the exercise for the elderly over 65 years of age was considered as APA and all the physical activity for the chronically ill, such as diabetics and people with rheumatoid arthritis, were also included. Furthermore, physical activity during pregnancy was also included. Theses concerning rehabilitation of back or neck, or any other musculoskeletal injuries and chronic pain were excluded. All accessibility reports were excluded as well as those providing physical activity advice or lifestyle interventions for the obese.

The general information of the theses was analyzed by counting the total number of theses that focus on APA in physiotherapy education and by dividing them into categories based on their finishing year (APPENDIX 2). The theses were also divided into two groups based on whether they were written in Finnish or in English.

The age of the target groups was analyzed by inductive content analysis. Four groups were made: elderly 65+, adults 18-64, children under 17, and uncategorized. Subjects over 65 are considered to be elderly, as well as theses that have the word “elderly” in the title or abstract. Subjects or mean age from 18 to 59 are considered adults. Theses that have a word “adult” or “working aged” in the title or abstract are considered to belong to this group. Subjects under 18 years old or considered as “children” in the title or abstract belong to children group. In uncategorized group the subjects are from various age groups or the age of research subjects are undefined in the abstract or title. Theses concerning physical activity during pregnancy are also filed under “uncategorized” as there are many expectant mothers under the age of 18.

*Deductive content analysis.* The abstracts were searched for the co-operational organizations and parties that worked in co-operation with the writer. These relations to working life were analyzed by deductive content analysis, and the co-operational parties were divided into 3 categories; APA organizations, institutions of social services and health care and municipalities, because they are the most important service providers of APA in Finland (Mälkiä & Rintala 2002, 419-421). In addition, a group “uncategorized” was made to cover the partners that could not be categorized in the main three groups.

Division was also made depending on where the co-operational agents were located. As the most parties were from Pori and other areas from Satakunta, they were included as separate groups. Ulvila was also listed as its own category as 5 co-operation parties were from there. The rest of the categories were: “outside Satakunta”, “national” and “international”.

The bachelor’s theses were divided into categories based on which field of APA they concentrated on. Deductive content analysis was used and the Figure 1 was used as a base for classification (Koivumäki 2010, 3). The terms rehabilitation/rehabilitative exercise and recreation are close to each other and in this study, rehabilitation was considered to be arranged by social and health care or occur in facilities of social services and health care. It was also considered to concentrate on improvement of a certain ability or phenomenon whereas recreational physical activity is considered to be more holistic than the former. Furthermore, recreational activities are arranged by APA organizations and physical activity boards in municipalities. Self driven physical activity is considered recreational.

Theses were also categorized depending on the diagnosis of the target group of the thesis. Only theses that had a specific diagnosis of the target group mentioned in the abstract were listed on the table. Target groups such as “the war veterans” or “the disabled” were left out as the diagnosis was unclear.

Deductive content analysis was used when the theses were divided into categories depending on whether they focused on theory or on operational aspects. Division was

made according to the classification on the website of SAMK (2009). Third category, “undefined” was added to those theses that could not be classified and to those that had features of both types of theses.

Table 3. Content analysis

| Research questions               | Analysis  | Classification method                                   | Classification categories  |
|----------------------------------|---|---|--|
| 1. Basic depiction of theses     | - Number of thesis<br>- Language<br>- Publishing year | Inductive content analysis                              | Finnish/English<br>- 1997-2009   |
| 2. Relations to working life     | Co-operational organizations                          | Deductive content analysis                              | - institutions of social services and health care<br>- municipalities<br>- organization<br>- undefined   |
| 3. Fields of APA                 |   | Deductive content analysis (Koilumäki 2010, 6).         | - top sports<br>- competitive sports<br>- recreation<br>- adapted physical education<br>- rehabilitation |
| 4. Research/operational oriented |   | Deductive content analysis (Website of SAMK, 9.10.2009) | - research<br>- operational<br>- undefined   |
| 5. Target population             | Age and diagnosis                                     | Inductive content analysis                              | - children<br>- adults<br>- elderly<br>- undefined   |

### 6.3 Reliability

The fact that the bachelor's theses were marked under so many different titles (APPENDIX 1) made the search difficult and the search for theses that focus on APA was double checked; therefore it is fairly certain that all of them were found. The library was also manually searched to try and find theses that were not found by Tyrni database. The most demanding factor in this study was to find the bachelor's theses that were eligible for the study. I found Tyrni search engine to be unreliable and it was very time consuming to try and find a reliable method of finding all the APA related theses. The library did not have a list of bachelor's theses made in physiotherapy education and the use of key words is unreliable. The only way to find all theses in physiotherapy education that concern APA was to read a list with all the bachelor's theses made in Tiilimäki Pori in 1997-2009. It also was not mentioned in the title of the theses in which education programme it was made and another tab had to be opened to find out. I didn't find a reliable way to find out how many bachelors' theses all in all had been written in physiotherapy education. The Tyrni search engine found 102 results on with the search word "fysioterapian koulutusohjelma" with a limit "only bachelor's theses". With the search word "degree programme in physiotherapy" and same limit, 56 results were found. These I believe to be accurate because I did not find any other theses with same education titles that were not on this list. However, the search was more difficult when I tried to find out how many theses were written under the education title "kuntoutuksen suuntaumisvaihtoehto" and I did not find any of the theses that were included in this study with that education title and there were also some theses that were written in another education programme. That made it impossible to find out the number of theses in physiotherapy education reliably.

The study was made based on abstracts and titles of the theses. The results might be somewhat different if the whole bachelor's thesis had been read and this decreases the reliability. However, usually the knowledge studied in this study is mentioned in the abstract.



The search for eligible theses and data analysis were made by one person, which improves the reliability. Dividing the bachelor's theses into categories based on which field of APA they focus on was difficult and unless it is done in a standardized way, it is a threat to reliability (Silverman 2001, 229). The difference between rehabilitation/rehabilitative exercise and recreational exercise was especially difficult to interpret. However, the criteria for analysis were clearly stated in chapter "data analysis".

## 7 RESULTS

### 7.1 General information

It was discovered that 57 bachelor's theses focused on APA in physiotherapy education in SAMK in 1997-2009 (APPENDIX 2). Of these studies, 21 % (n=12) were written in English. The remaining 79% (n=45) were written in Finnish. Table 4. illustrates this distribution.

Table 4. The writing language of the bachelor's theses presented in numbers and in percentages

| Language | Number | %   |
|----------|--------|-----|
| Finnish  | 45     | 79  |
| English  | 12     | 21  |
| Total    | 57     | 100 |

The number of bachelor's theses written each year since 1997 have been illustrated in the chart below. The first students that started studying in physiotherapy education in SAMK finished their studies in 1997 the earliest. Therefore, no thesis were published before 1997. The lowest number of APA related theses written during one year was two in year 2002 and 2007. The highest number of APA related theses written during one year was eleven in 2009.

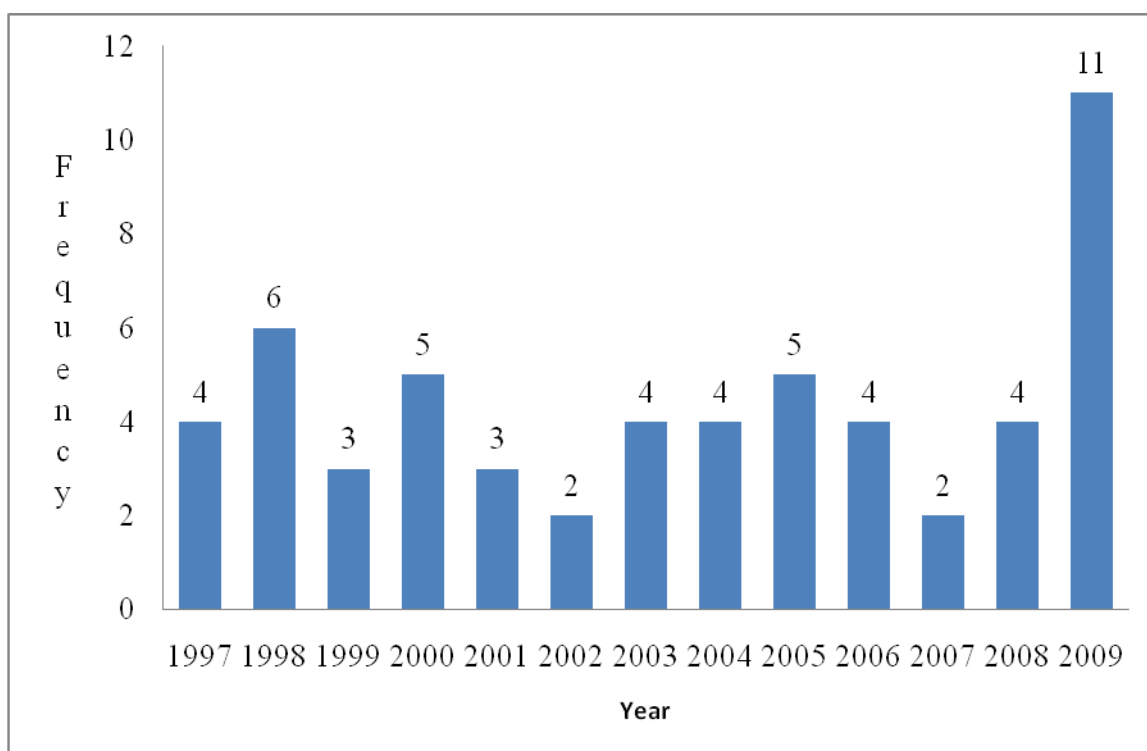


Figure 2. The number of bachelor's theses finished each year in 1997-2009.

## 7.2 Working life relations

It was discovered that 72% (n=41) of the theses in this study had a co-operational partner mentioned in the abstract. Furthermore, some of these mentioned more than

one co-operational partner. Table 5 presents what kind of different co-operational partners have been used.

According to the study, 45% (n=22) of co-operational partners were institutions of social services and health care. A few examples from this category are: Liinaharja home for elderly [Liinaharjan vanhainkoti], Ulvila geriatric care association, Pappilampinen service centre [Ulvilan vanhustenhuoltoyhdistys Ry] and Pori mental health center and home rehabilitation [Porinmielenterveyskeskus/kotikuntoutustyöryhmä]. Organizations were used as a co-operational partner 27% (n=13) of the cases. Some examples from this category are: Crohn and Colitis association of Finland, The arthritis association of the Pori region [Porin seudun reumayhdistys] and Young Finland Association. Municipalities were also used as a co-operational partner in 5% (n=10) of the total amount. City of Pori and physical activity board of Pori city are examples of co-operational partners under this title. In the end, 18% (n=9) of co-operational parties were uncategorized. To name a few from this group: Satakunta University of Applied Sciences, Sports services centre in Turku and Health clinic Punaomena [Terveyspiste Punaomena].

Table 5. The frequency and percentages of co-operational partners in bachelor's theses divided by different partners that organize APA.

| Co-operation partners                           | Number | %   |
|---|--------|-----|
| Institutions of social services and health care | 22     | 45  |
| Organizations                                   | 13     | 27  |
| Municipalities                                  | 5      | 10  |
| Uncategorized                                   | 9      | 18  |
| Total   | 49     | 100 |

Table 6. presents from which area or city the co-operational partners were from. It was discovered that 57% (n=27) of the co-operational partners were from Pori. A co-operational partner from Pori was for example Pori home help Service [Porin kotipalvelu]. Furthermore, 10% (n=5) were from Ulvila. Ulvila geriatric care associ-

ation, Pappilanlampi service centre for the elderly (Ulvilan vanhustenhuoltoyhdistys Ry) was the co-operational partner in five (n=5) theses. Co-operational partners from other cities and municipalities in Satakunta constituted 13% (n=6) and outside Satakunta 10% (n=5). National partners acted as co-operational parties in 6% (n=3) of the theses and international in 4% (n=2). An example of an international co-operational partner is Finnish diabetes Federation in Costa del Sol and local diabetes federation [Asociacion Finlandesa Costa Del Sol].

Table 6. The list of co-operational partners of the bachelor's theses categorized based on location and presented on numbers and percentages.

| Region            | Number | %   |
|-------------------|--------|-----|
| Satakunta region: |        |     |
| Pori              | 27     | 57  |
| Ulvila            | 5      | 10  |
| Other             | 6      | 13  |
| Outside Satakunta | 5      | 10  |
| National          | 3      | 6   |
| International     | 2      | 4   |
| Total             | 48     | 100 |

### 7.3 Fields of APA

It was discovered that 56% (n=32) of the theses concerned rehabilitation/rehabilitative exercise. Jussila, Karipalo & Ypyä (2000) had created a rehabilitation focused thesis. In their work they studied the effects of hydrotherapy on the upper limb function in two children with cerebral palsy. Recreation was the

field of APA in 39% (n=22) of the theses. In 2007, for example, a physical activity project was executed in Pori region during the national arthritis week (Paulamäki & Sokka 2007). Adapted physical education was the field of APA in 5% (n=3) of the bachelor's theses. Mäkitalo (2008), for example, had created an exercise programme for children with a disability to support the development of their body image. Figure 3 presents the distribution of the theses between the different fields of APA.

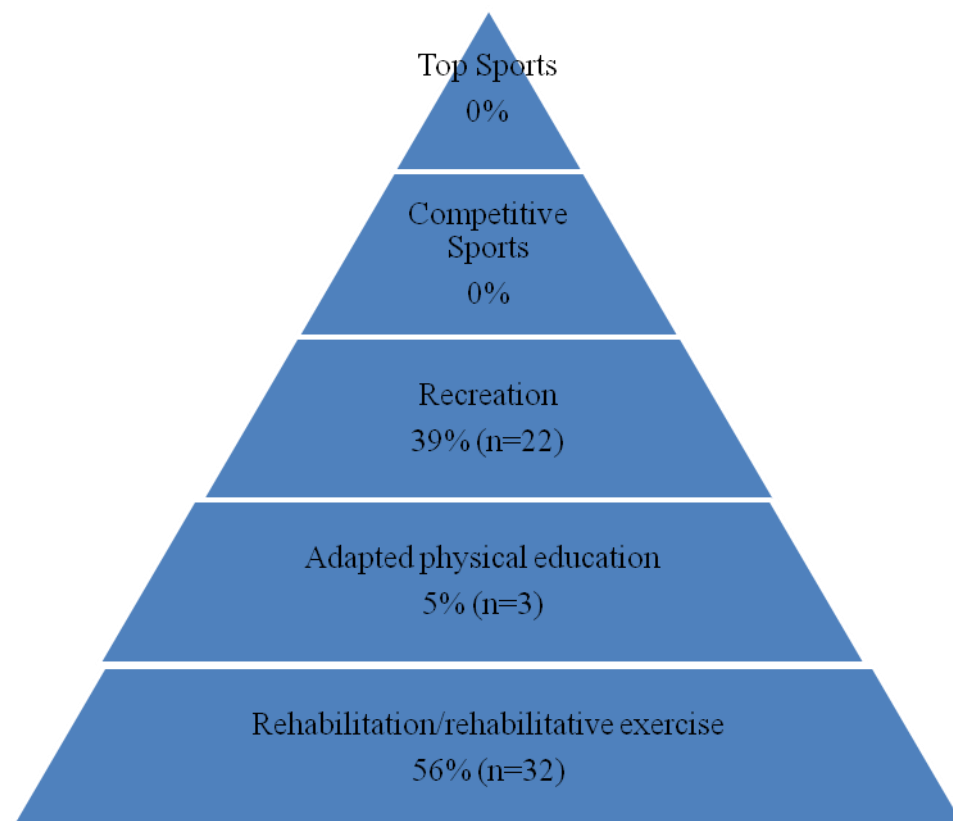


Figure 3. Different fields of APA as a focus in theses

#### 7.4 Target population

Table 3 presents the age distribution of target population or research subjects. The age of the target groups or research subjects varied between 2 to 99 year olds. It was

discovered that the target population of 30% (n=17) of the bachelor theses were the “elderly”. Wingström (2008) had studied the effects of exercise intervention on the functional ability of the residents at the Pappilanlampi service centre for the elderly. The group “adults” was the target population in 14% (n=8) of the theses. One example from this category is: The effects of interval walking on the asthma symptoms of working age women [Kävelyintervalliharjoittelun vaikutukset työikäisten astmaa sairastavien naisten astmaoireisiin] (Jokinen & Rautiainen 2009). In this study, 21% (n=12) had “children” as a target population. Komulainen made her thesis about the guidance of a visually impaired child in cross-country skiing (Komulainen 2009). The group “uncategorized” took in 35 % (n=20) of the theses.

Table 3. The age deviation of target groups in bachelor’s theses presented in numbers and percentages.

| Age             | Number | %   |
|-----------------|--------|-----|
| Elderly (65+)   | 17     | 30  |
| Adults (18-64)  | 8      | 14  |
| Children (0-17) | 12     | 21  |
| Uncategorized   | 20     | 35  |
| Total           | 57     | 100 |

In this study, 40% (n=23) of the bachelor’s theses specified a diagnosis of the target group. The most common diagnosis of these target groups was cerebral palsy (n=5). Other diagnosis that were specified were Parkinson’s disease (n=3), diabetes type 2 (n=3), pregnancy (n=3), schizophrenia (n=2), stroke (n=2), diabetes (n=1), coronary heart disease (n=1), ADHD (n=1), asthma (n=1) and inflammatory bowel disease (n=1).

## 7.5 Types of theses

Bachelor's thesis can focus either on research or on operational aspects. The research showed that 70% (n=40) focused on research and 25% (n=14) focused on operational aspects. Furthermore, 3 theses had features of both types and they were categorized as "undefined". A thesis by Saukkonen (1998), for example, was purely focused on research: "A single case study: Effects of aerobic exercise training programme in patient's with coronary heart disease". Lönnfors & Nikander (2005), however, produced a thesis that concentrated on operational aspects. In their work they created a website to promote physical activity in inflammatory bowel disease. Liesmäki & Sunila (2008), had concentrated on both research and operational aspects in their thesis; they studied the service-delivery in physical activity of mental health outpatients and created a 10 weeks physical activity course to these patients.

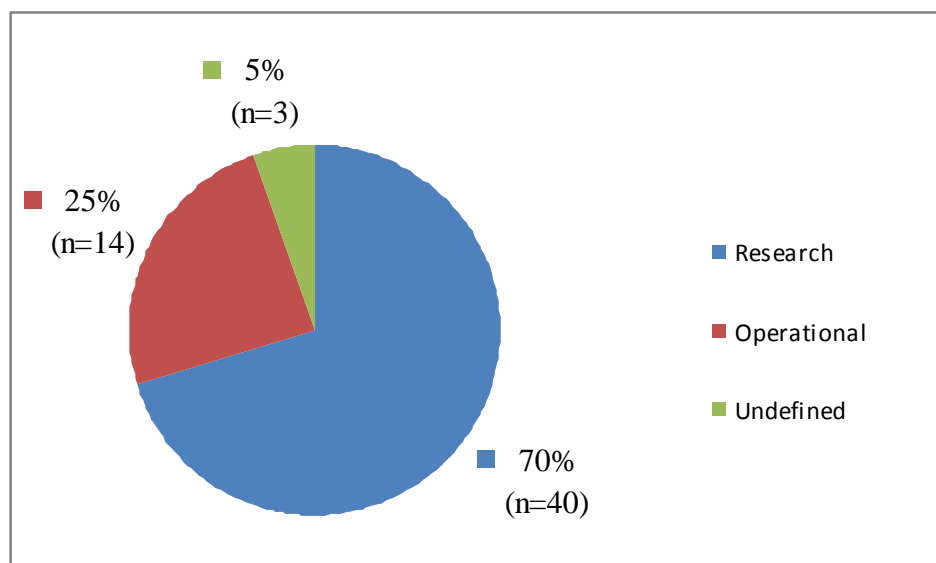


Figure 4. The distribution bachelor's theses that focus either on research or on operational aspects.

## 8 CONCLUSION

The results showed that 57 bachelor's theses were written on APA in 1997-2009. The number of theses that focus on APA each year has varied from 2 to 6 from 1997 to 2008. In 2009, the number was 11, which is considerably higher than in previous years. Results showed that 12 theses were written in Degree Programme in Physiotherapy or in Rehabilitation studies. Thus, 21 % of the theses chosen for this study were written in English.

It was discovered that 72% of the bachelor's theses mentioned a co-operational partner in the abstract. It is also possible some theses did not mention the co-operation partner in the abstract. It was noticed that 45% of co-operational partners were institutions of social services and health care. This might be due to the high amount of physiotherapists working in these institutions and due to the fact that rehabilitation has a remarkable role in these institutions. People living in these institutions are often elderly, and there is a high demand for new rehabilitation studies for the elderly. The number of co-operational partners from municipalities was only 10 %, probably because physical activities provided by municipalities are often recreational, and the physiotherapists' main area of expertise is closer to rehabilitation. The group "uncategorized" was 18% of the total amount. Some theses were made in co-operation with SAMK, or another faculty such as a child care centre, that could not be categorized. Most (57%) co-operational partners were from Pori which is natural as SAMK is in Pori. Furthermore, 10% were from Ulvila, a municipality close to Pori. Other cities or areas of Satakunta were represented by 10%. It was discovered that 4% of the co-operational partners were international. That was expected as physiotherapy is also studied in English in SAMK.

Majority (56%) of the bachelor's theses concentrated on rehabilitative exercise/rehabilitation which was expected as rehabilitation is the main area of expertise for physiotherapists. In addition, 39% concentrated on recreation while 5 % concentrated on adapted physical education. No theses focused on competitive or top sports.



The results indicate that physiotherapy education does not give tools to do research on top/ competitive sports as they require higher level of expertise in that area.

It was discovered that 30% of the theses focused on elderly. That can be explained by the high demand of rehabilitation services for the elderly and by the fact that the number of elderly people in Finland is increasing as generation is getting older. Furthermore, it was noticed that 21% of theses focused on children under 18, and 14% on adults. The larger number of children focused theses might reveal that physical activity for children with special needs is an area that many students find interesting. Moreover, 35% of the theses were labeled “uncategorized”. The large number of theses that belong to this group can be explained by lack of age definition in the title or abstract. Furthermore, some theses that focus on a particular disease or disability, for example, a thesis “an Empowerment Day for persons with Parkinson’s disease” (Krook 2009), consider all ages with the disease and thus cannot be categorized. That also explains why only 40% of the target groups of bachelor’s theses had a specific diagnosis.

The study showed that 70 % of the bachelor’s theses were research oriented, 25% were focused on operational aspects and 5 % had features of both methods or the method was unclear. It may be that the amount of theses that concentrated on operational aspects was significantly lower because they are often more demanding and require more work than research oriented theses. However, the fact that there are some theses that focus on operational aspects shows that there is a practical need for expertise in this area.

## 9 DISCUSSION

The idea for this study came from the research and development at the faculty of social services and health care in SAMK. The research process was very interesting and also inspired me to continue my studies in the field of APA. What surprised me the most was how much knowledge it is possible to gain during the thesis process. That is why bachelor's thesis should be written about a topic in which the student also has personal interest in.

However, there were some difficulties in the process. It was demanding to decide my criteria for APA and what thesis I would involve in this study. I found out that APA was difficult to define so precisely that I could easily decide which theses concerned APA and which did not. Making sure that all relevant theses were found was also demanding I had to try different methods to make sure that the reliability is good. Reliability was further analyzed in page 24. One of the problems that emerged as I was trying to find the relevant theses was that physiotherapy education has been carried out under different titles in the past. That is why it was quite difficult to track down all the theses. It would be good if the library would have a list of all the theses that have been published in each degree programme. The search for relevant theses was also demanding because of the use of incorrect keywords. Some theses that were directly related to APA did not have the keyword "adapted physical activity" or the Finnish "soveltava liikunta" in them. Furthermore, "soveltava liikunta" and "opinnäytetyö" cannot be found from the Common Finnish thesaurus [Yleinen suomalainen asiasanasto].

The results of the thesis showed that even a bachelor level education of physiotherapists can enhance the development of APA locally, nationally and even internationally. That is a good indicator that physiotherapists have a good attitude towards APA and have enough expertise also to work in that area. Also theory supports this as according to Piispanen (2010), 50-60% of adapted physical activity instructors have a physiotherapy education. A similar study could also be conducted in degree pro-

gramme in social services in SAMK. A good topic for a future study would also be to investigate how many physiotherapists in general work in the field of APA.

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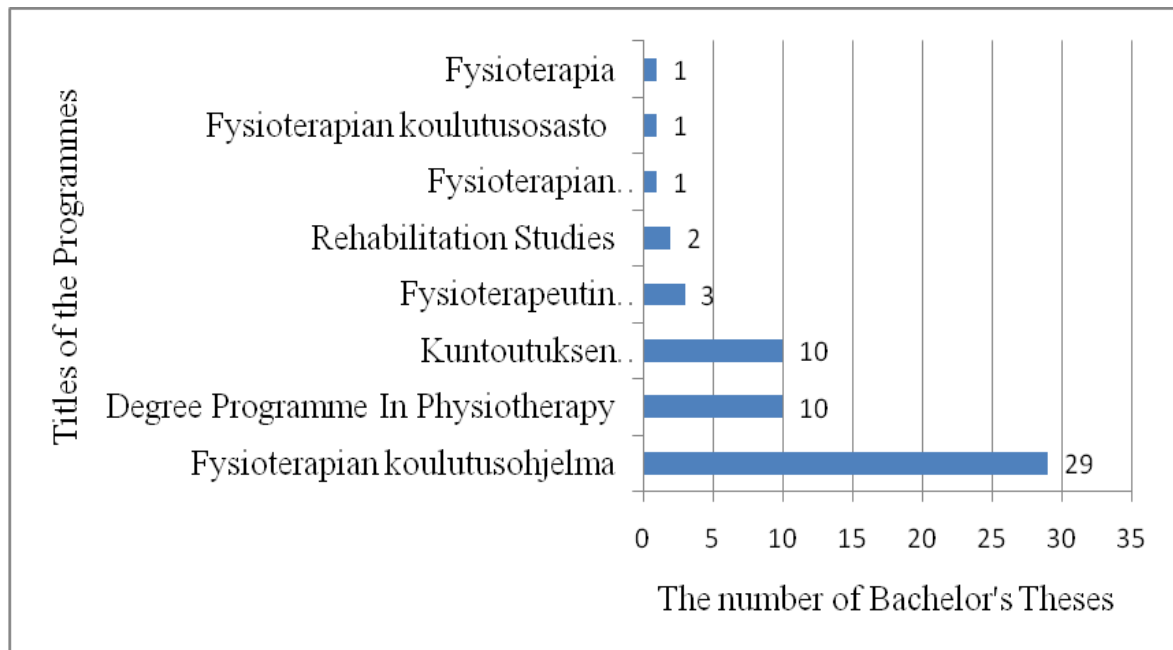
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Number of bachelor's theses under different titles of physiotherapy





## APPENDIX 2

Titles of bachelor's theses concerning APA published in physiotherapy education in  
SAMK in 1997-2009

ALLASVOIMISTELUN VAIKUTTAUVUUS FIBROMYALGIAN KESKEISTEN  
OIREIDEN KOKEMISEEN SEKÄ FYYSISEEN KUNTOON 1997

AKTIIVIHARJOITTELUN VAIKUTUS PARKINSONIN TAUTIA  
SAIRASTAVAN TASAPAINOON 1997

ELÄMÄNTAPAREMONTTI AIKUISIÄN DIABETEKSEN RISKIRYHMÄLLE  
OSA 2 1997

ITSETOTEUTETUN HARJOITTELUN VAIKUTUKSET  
DIALYYSIPOTILAIDEN FYYSISEEN SUORITUSKYKYYN 1997

KUNTOPYÖRIEN LAINAUSTOIMINTA PORIN TERVEYSKESKUKSESSA JA  
IÄKKÄIDEN KUNTOPYÖRÄHARJOITTELU 1998

A SINGLE CASE STUDY: EFFECTS OF A SIX WEEK AEROBIC EXERCISE  
TRAINING PROGRAMME IN PATIENT'S WITH CORONARY HEART  
DISEASE 1998

VETERAANIEN FYYSISTÄ TOIMINTAKYKYÄ MITTAAVA TESTISTÖ 1998  
TOIMINTAKYKYÄ KUVAAVAN MITTARISTON KEHITTÄMINEN  
PAPPILANLAMMEN PALVELUKESKUKSEN ASUKKAILLE 1998

THE EFFECTS OF A 5- DAY HYDROTHERAPY PERIOD ON THE UPPER  
LIMB MUSCLE TONE AND FUNCTION OF A CHILD WITH SPASTIC  
CEREBRAL PALSY 1998

GROUP ACTIVITY FOR HEMIPLEGIC PATIENTS 1998

PERIFEERISTEN LIIKKEIDEN VAIKUTUS VERENKIERTOON  
DIABETESPOTILAILLA 1999

“SE LIIKUNTA, LIIKUNTA ON MULLE KAIKKI KAIKESSA” VANHUSTEN  
MIETTEITÄ LIIKUNNASTA 1999

LIIKUNTATOIMINNAN EDISTÄMISEN VAIKUTUS PAPPILANLAMMEN  
PALVELUKESKUKSEN ASUKKAIDEN TOIMINTAKYKYYN 1999

KUNTOUTUSJAKSON VAIKUTUS IÄKKÄIDEN FYYSISEEN  
TOIMINTAKYKYYN JA HEIDÄN OMIA KOKEMUKSIA  
KUNTOUTUSJAKSON VAIKUTUKSISTA TOIMINTAKYKYYN 2000

KOULULYKÄTTYJEN LASTEN KARKEAMOTORISET TAIDOT JORVIN  
TESTILLÄ MITATTUNA 2000

TESTING THE MOTOR ABILITY OF SIX YEAR OLD CHILDREN WITH  
MOVEMENT ABC 2000

A SINGLE- GROUP DESIGN OF THE EFFECTS OF INTENSIVE  
HYDROTHERAPY PROGRAM WITH MIXED GROUP OF PATIENTS WITH  
RHEUMATIC DISEASES 2000

A SINGLE SUBJECT DESIGN OF THE EFFECTS OF HYDROTHERAPY ON  
THE UPPER LIMB FUNCTION IN TWO CHILDREN WITH SPASTIC  
TETRAPLEGIC CEREBRAL PALSY 2000

LIIKUNTA RASKAUDEN AIKANA JA SYNNYTYKSEN JÄLKEEN –  
FYSIOTERAPEUTIN TOTETUTTAMA OHJAUS SATAKUNNAN ALUEEN  
TERVEYSKESKUSTEN ÄITIUOLLOSSA JA KIRJALLINEN  
MATERIAALI RASKAANA OLEVILLE NAISILLE 2001

RATSASTUSTERAPIAN VAIKUTUS CP-VAMMAISEN SPASTISEN  
TETRAPLEGIAPOTILAAN KÄVELYYN 2001

”MIELTÄKIN NOSTAA SILLEE KU O LIIKKUNU”  
SKITSOFRENIAKUNTOUTUJIIEN LIIKUNTAKOKEMUKSIA 2001

AIKUISNEUROLOGISTEN POTILAIDEN LIIKKUMISKYKY- JA  
TASAPAINOMITTAREIDEN KÄYTÖN KARTOITUS SATAKUNNAN  
ALUEELLA 2002

EFFECTS OF AN INDIVIDUAL HOME EXERCISE PROGRAMME ON  
FUNCTIONAL CAPACITY IN ELDERLY SUBJECTS OVER THE AGE OF 75  
YEARS : CASE STUDY 2002

OHJATUN TERAPEUTTISEN HARJOITTELUN VAIKUTUS RASKAANA  
OLEVAN NAISEN ALASELÄN KIPUITILOIHIN JA TOIMINTAKYKYYN 2003

TASAPAINOHARJOITTELULLA IKÄÄNTYNEIDEN TASAPAINO  
PAREMMAKSI – TAPAUSTUTKIMUS 2003

KESTÄVYYSVOIMAHARJOITTELUN VAIKUTUS IKÄÄNTYNEIDEN  
NISKAHARTIAONGELMAISTEN NAISTEN OIREISIIN, LIIKKUVUUTEEN JA  
LIHASVOIMAAN; ESIKOKEELLINEN TUTKIMUS  
TAMMELAKESKUKSESSA 2003

TOIMINTAKYKY JA TOIMIVA-TESTIT LIINAHARJAN VANHAINKODISSA  
2003

TASAPAINO-,ALARAAJOJEN LIHASVOIMA-JA  
KOORDINAATIOHARJOITTELUN VAIKUTUKSET LIINAHARJAN  
VANHAINKODIN ASUKKAILLA 2004

THE EFFECTS OF RIDING THERAPY ON A CHILD WITH CEREBRAL PALSY  
2004

KOLMEN KUUKAUDEN SÄÄNNÖLLISEN LIIKUNNAN VAIKUTUKSET  
TYYPIN 2 DIABETEKSEEN 2004

”ERILAISTA JA KIVAA TEKEMISTÄ” – HARJOITTELUN VAIKUTUS  
RUUMIINKUVAAN NUORILLA SKITSOFRENIAPOTILAILLA 2004

TAPAUSTUTKIMUS TASAPAINOHARJOITTELUN VAIKUTUKSISTA  
PALVELUTALO RUSKAHOVIN ASUKKAISIIN 2005

THE EFFECTS OF A SHORT-TERM PRE- DESIGNED PRE-DESIGNED  
BALANCE TRAINING PROGRAMME ON DYNAMIC BALANCE AND  
POSTURAL SWAY IN PARKINSON’S DISEASE 2005

CREATING A WEBSITE TO PROMOTE PHYSICAL ACTIVITY IN  
INFLAMMATORY BOWEL DISEASE 2005

TAPAUSTUTKIMUS TASAPAINOHARJOITTELUN VAIKUTUKSESTA  
ADHD-LAPSEN TASAPAINOON 2005

SEISONTAHARJOITTELUN VAIKUTUS AIVOHALVAUSPOTILAAN  
TASAPAINOON 2005

KORKEAAN IKÄÄN EHTINEEN HENKILÖN LIIKKUMISKYVYN  
HARJOITTAMINEN VANHAINKODISSA 2006

PÄÄ OLKAPÄÄ PEPPU POLVET VARPAAT, TAVOITTEELLISTEN  
MOTORISTEN HARJOITTEIDEN VAIKUTUS PUHEHÄIRIÖISIIN LAPSIIN  
2006

KOETUN FYYSISEN PÄTEVYYDEN MUUTTUMINEN LIIKUNNASTA  
SYRJÄYTYMISVAARASSA OLEVILLA LAPSILLA  
LIIKUNTAINTERVENTIOON OSALLISTUMISEN AIKANA 2006

”JUHLALLISTA ETTÄ MÄ PÄÄSEN KYKKYYN” IKÄÄNTYNEIDEN  
KUNTOSALIHARJOITTELUN VAIKUTTAUVUUS KOETTUUN  
TOIMINTAKYKKYYN 2006

COLLABORATIONAL PHYSICAL ACTIVITY PROJECT DURING THE  
NATIONAL ARTHRITIS WEEK IN PORI REGION 2007

TAPAUSTUTKIMUS TASAPAINOHARJOITTELUN VAIKUTUS CP-LAPSEN  
TASAPAINOON 2007

LIIKUNTAINTERVENTION VAIKUTUS PAPPILANLAMMEN  
PALVELUKESKUKSEN ASUKKAIDEN FYYSISEEN TOIMINTAKYKKYYN  
2008

HARJAANTUMISKOULUN ALA-ASTEEN OPPILAILLE SUUNNITELLUN  
RUUMIINKUVAPAINOTTEISEN LIIKUNTAOHJELMAN PERIAATTEIDEN  
KEHITTÄMINEN, TOTEUTUS JA ARVIOINTI 2008

MIELENTERVEYSVOKUNTOUTUJIIEN LIIKUNTAPALVELUIDEN  
KARTOITTAMINEN JA 10 VIIKON LIIKUNTAKURSSI KUNTOUTUJILLE  
PORISSA 2008

MOTORIIKKA PAREMMAKSI- OPAS MOTORIIKKAKERHON  
OHJAAMISEEN 2008

TASAPAINORYHMÄ PALVELUMUOTONA KOKEMÄEN  
TERVEYSASEMALLA- SUUNNITTELU, KOKEILU JA ARVIOINTI 2009

EMPOWERMENT DAY FOR PERSONS WITH PARKINSON'S DISEASE 2009

NÄKÖVAMMAISEN LAPSEN MAASTOHIIHDON OPASTAMINEN  
FYSIOTERAPEUTTIOPISKELIJAN TOTEUTTAMANA 2009

SÄPINÄÄ SISÄLLÄ- PELILAUKKUKOULUTUS KEHITYSVAMMAISTEN  
AIKUISTEN ASUNTOLOIDEN TYÖNTEKIJÖILLE 2009

LIIKUNTA JA MUUTOKSET TUKI-JA LIIKUNTAELIMISTÖSSÄ  
RASKAUDEN AIKANA- OHJELEHTINEN RASKAANA OLEVILLE NAISILLE  
2009

FYSIOTERAPIAN SISÄLTÖSUUNNITELMA SUOMALAISTEN  
IKÄÄNTYVIEN TOIMINTAKYVYN KEHITTÄMISEEN JA TESTAAMISEEN  
ESPANJAN AURINKORANNIKOLLA 2009

LIIKUNTAKÄYTTÄYTYMINEN JA TERVEYTEEN LIITTYVÄ  
ELÄMÄNLAATU TURKULAISILLA YLI 70-VUOTIAILLA  
LIIKUNTAKORTIN HALTIJOILLA 2009

AVOMIELENTERVEYSKUNTOUTUJIIEN KOKEMUKSIA  
PROGRESSIIVISESTA RENTOUTUKSESTA 2009

TERVEYSLIIKUNNAN JA RAVINNON VAIKUTUKSEN TYYPIN 2  
DIABETEKSEEN 2009

KAHDEKSAN VIIKON LIIKUNTAJAKSON VAIKUTUKSET  
FIBROMYALGIAPOTILAIDEN ELÄMÄNLAATUUN JA KESKEISTEN  
OIREIDEN KOKEMISEEN 2009

KÄVELYINTERVALLIHARJOITTELUN VAIKUTUKSEN TYÖIKÄISTEN  
ASTMAA SAIRASTAVIEN NAISTEN ASTMAOIREISIIN 2009