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## **From Country Girl in Southern Finland to Longitudinal Research into Alternatives to Aggression and Violence**

Lea Pulkkinen

### Summary

The Jyväskylä Longitudinal Study of Personality and Social Development that I conducted from 1968 to 2012, has revealed the long-term significance of self-regulation for socioemotional behavior. In the impulse control model that I devised in 1967, the idea of cognitive control of emotional behavior was theoretically novel. It was used for the study and explanation of individual differences in aggressive and non-aggressive behaviors from childhood to middle age. My wish is that understanding the development of both aggressive and non-aggressive behavior can be applied to preventing aggressive and violent behavior and to promoting a more peaceful society. Individual aggressiveness rarely plays a part in international wars, but non-aggressive individuals create a culture that may reduce instigations to aggression and eliminate the need for the institutions of war. Constructive behavior in childhood anticipates the Resilient style of life and successful adulthood in terms of work and human relationships leading to mental well-being. Aggressive behavior in childhood tends, in turn, to be linked with other types of under-controlled behaviors, the pattern being predictive of further problems in social adjustment. The development of what I have termed the styles of life is a cumulative process associated with parenting, living

conditions, and genetic factors. In my applied work, I have highlighted the role of child-centered parenting and a school environment enriched by the arts and other interesting activities, for promoting children's positive development.

The longitudinal study was conducted at the Department of Psychology, University of Jvaskylä, Finland where I studied for a doctoral degree in psychology (1969) and did my academic career from research assistant to professor in psychology. I was the Dean and Vice-Dean of the Faculty of Social Sciences in the 1980s and held the honorary position of Academy Professor from 1996-2001, chaired the Center of Excellence for Research on Human Development and Its Risk Factors from 1997-2005, and worked to promote multidisciplinary research into the family and human-centered information technology. I have gained international experience from universities in the USA and the UK by visiting them from a few weeks to a few months. International tasks such as serving as the President of the International Society for the Study of Behavioral Development for five years (1991-1996) brought me into contact with people from all over the world. Numerous positions of trusts in Finland have given me the opportunity to transfer my research findings and international experiences into my work in Finland.

I have had to face and overcome difficulties in my life as everyone does, but in general, it has been a rich and successful journey. I was born when the Second World War began in Finland, and each decade of my life has helped me to grow in a particular way, enabling me to fulfill my mission. The number of titles of my publications is 550, half of them in English, which were mostly written with various research teams. For a non-English speaking researcher the language of publications is an issue to be solved. In addition to publishing scientifically in English, my goal has also been to disseminate research findings in Finnish and in this way to contribute to the development of my home country. The numerous

awards that I have received demonstrate a recognition of my efforts to improve childhood on a scientific basis.

### **“A healthy daughter was born”**

My parents got married in 1938 in the shadow of sorrow because my mother's father had drowned on the eve of their wedding day while fishing on a nearby lake. After one year of marriage, the war separated them. The outbreak of the Second World War in September 1939 with the German invasion of Poland closely followed by the Soviet occupation of the east of that country, put Finland in an increasingly dangerous position. Full mobilization of the Finnish army in the form of the training of reserves began on 14 October. My father was among these men. I was born on 29 October 1939, my parents' first child, and my father heard on the radio that “a healthy daughter was born” to him. On 30th of November, the Soviet Union invasion of Finland started the so-called winter war. My father and his two brothers fought against the Soviet Union. Fighting ended on 13 March 1940. It was followed by the Armistice (or Interim Peace) until June 1941 and the Continuation War until September 1944.

My first two sisters were born in 1941 and 1943, while my third sister was born after the war, 1947. My mother tried to protect us from the horrors of the war. Due to her wise approach to parenting, my basic trust in people and life developed well, in spite of the war. I only remember my mother crying once. I went to look for her at night and found her weeping while writing a letter to my father. She told me that she was worried about him. I remember that the windows had to be covered so that light from the house could not be seen from the planes. I also remember seeing the smoke from the bombing of the town 20

kilometers away and the anxiety it caused us. I was forbidden to run from the house to the cowshed if planes were flying overhead.

The war with the Soviet Union ended in September 1944. The small Finnish army was able to defend the country against the planned Soviet invasion, and thus maintained the independence Finland had since it became an independent republic in 1917. Finland was part of the Kingdom of Sweden for centuries but, as a consequence of a war between Sweden and Russia, it became an autonomous Grand Duchy in the Russian Empire from 1809 to 1917. The Finnish language does not belong to the Indo-European languages as Swedish and Russian do, but rather belongs to the family of non-Indo-European languages, and hence Finland has its own cultural heritage. For the defense of its independence during the 1939-45 war, Finland (with a population of around 4 million people) lost around 271 000 men, 57% of the size of its army (475,000 were mobilized in 1941; Screen, 2014), while the Soviet Union lost 700 000 – 800 000 men. The terms of the peace treaty were tough for Finland, including the loss of land in the South East and the North East, the lease of a site near Helsinki (for a Soviet army base) for 50 years, and huge war reparations that Finland finished paying in full in 1952. Around 340,000 railway wagonloads were needed to deliver all the war reparations.

I was almost five years old when my father returned from the war. He was not physically wounded, but the war had affected him negatively as it did many other men in various ways. His problems were seen in the heavy periodical use of alcohol that later motivated my study on drinking behavior. My mother said that the man who returned from the war was not the same man whom she had married. My father died of a heart attack in 1961 at the age of 47 years, on the day he was supposed to visit the hospital to see my newborn baby and me. My mother lived as a widow with some bitter memories until the age of 90. After her death, I had a dream in which my daddy was laying on a sofa with his head on my mom's lap, and they looked happy together. It was a good feeling: they had found

each other again. For me, he was a dear daddy who loved me and set high expectations for me.

My parents had attended the same primary school. My father (1914-1961) went to secondary school and then returned home and took part in the business at his home farm. After returning from the war, he expanded his business into manufacturing building elements. My parents met in 1937 when my father went to repair the roof of a farmer's house and set his eyes upon the farmer's daughter. My mother (1915-2005) completed her elementary studies in a school run by the church, moving from one farm to another. She only went to the municipal school when she was 10 years old, because it was far away, some seven kilometers through a forest. Her parents had chosen this school because it was better than the local school. She had to stay at someone else's house during the week and was very homesick. She loved learning - I remember that she knew her textbooks by heart - and she had an excellent memory until the day she died. She would have liked to attend teacher-training college, but her parents sent her to a school of domestic science. After this she went back home to work on the farm. My mother's ancestors had owned a large mansion since the 1640s.

My father's family moved from the West coast of Finland to Southern Finland. I find similarity between my paternal grandfather's and my own characteristics in energy and mental entrepreneurship, typical of people on the West coast, whereas my mothers' Southern Finnish characteristics laid a basis for my tenacious work in science. My grandfather (1890-1940) had suffered, like many other children in West Finland at that time, from not having a father around, because at that time many farmers immigrated to Canada or the USA to look for a better life. In his early teens, my grandfather had gone to work in a town, and he was only 19 when he got married to a Finnish-Swedish farmer's daughter (1887-1960). They had 16 children (no twins, two died in childhood) between 1910 and 1930. The couple first set up a shop and then bought a farm. My grandfather became involved in business, including

international trade and real estate. It turned out, however, that the emerging economic recession of the 1920s made it difficult to sell an estate in Southern Finland. With his two partners in the company, they decided that one of them had to settle at and run the estate, but which one of them would it be? They drew lots three times, and every time my grandfather selected the winning lot. When my grandmother also drew the winning lot in the spouses' game, the decision was clear: my grandparents had to move. Religion strengthened their belief that this was a call that they had to follow.

It was a cold winter's day, in January 1922, when the family with its servants were packed into a freight train. When the train stopped, the animals were fed and the cows were milked. The last 60 kilometers of the journey they travelled in frosty conditions in 30 horse-drawn sleighs collected from local farmhouses. Upon arrival at the mansion, it was found to be in poor condition, and only one room had been warmed. The history of the estate goes back to 1649; the estate had changed hands several times.

My grandfather started to work. He became interested in forestry and established a sawmill, improved the cultivation of the fields and established a flourmill, worked to improve the condition of the cattle and established a dairy. The estate was made a training farm for animal husbandry and gardening. The river that ran through their land enabled them to produce their own electricity. He himself was a skillful blacksmith and shared his skills with farm laborers. My grandfather was invited to various positions of trust such as church and municipal councils, and juryman. On Sundays, my grandparents ran a Sunday school for children. They were active forces for the establishment of an orphanage. Furthermore, the mansion was one of the places for around 400 000 people evacuated from East Finland, Karelia, to be resettled. In the winter of 1940, 60 people were taken care of for months in the estate.

My home was located three kilometers from my grandparents' estate. It was a small farm separated from the estate (all 14 children had inherited a plot of land). The estate provided my mother and her children with material and psychological security during the war. We also took Karelian evacuees into our home, and they gave me love and care when my mother had to take care of the younger children, the cattle, and the cultivation of the land.

### **How did I manage to do what I did?**

A longitudinal study is inevitably intertwined with world events, such as an economic recession, which affects the participants; with the history of science that brings up new theoretical ideas and methods to be considered; with the professional and personal history of the scientist conducting the study; and with technological advancements. The methods of handling study data, and computing capacities, have hugely evolved over the almost half a century in which the study has taken place: from manual computing to punch cards on to very effective laptops. Each decade of my life has contributed to my development, each in its own way, and has informed and strengthened me in my mission to promote a good childhood for future generations on a scientific basis.

### Country time in the 1940s

I was eager to go to school, and for years, my most favorite game was to play school with and for the other children. I remember an older woman who used to say when she watched my school arrangements: I wonder what kind of teacher Lea is going to become. The school starting age in Finland is seven years of age, but I often joined the neighborhood children in the year before I turned seven. I went to school voluntarily because the teacher of the combined first and second grade had given me permission to do so. The distance from my home to the school was almost four kilometers, which I walked or skied in winter. When I



actually started school, the teacher moved me into the second grade after a couple of weeks. The grades from 3 to 6 were also combined, and I enjoyed listening to the lessons taught to the classes above mine. I have a special memory from a school radio program, which motivated my later research work. The program was about a noble Finnish lady Mathilda Wrede (1864-1928) who had started to work voluntarily with prisoners. She was convinced that prisoners were normal people who had lived in unfortunate conditions and needed understanding and care. Another motivating event for my future was my teacher's request to me to present a 'kronikka' (a chronicle, a poem) that she had written about the pupils leaving the school after finishing the 6<sup>th</sup> grade at the school's spring festival. I did not understand what 'kronikka' meant, but I accepted the request with pleasure. Similar situations occurred many times in my life. I accepted tasks that others invited me to take on, without understanding exactly what they involved.

Life in the countryside was financially modest, but I did not lack anything. My life was rich from observing the activities of the adults around me and caring for the animals that I loved. My mother was skilled in everything she did. I have vivid memories of how to make potato flour, syrup, soap, sausages, fruit and berry conserves, how to milk a cow by hand and feed the animals, and how to grow linen and shear sheep and spin thread from the wool and the linen for clothes making. I also enjoyed gatherings with relatives where we sang together and played fun games in which the adults also participated. My father had a motorbike and a car, and we took trips together. On Sunday, we often went to church, and sometimes I performed a special singing program with my sisters. Alternatively, we went to the Sunday school, run by my grandmother, in a different home each Sunday. The journey to Sunday school was sometimes a long one, but my parents trusted me to go there by horse-driven sleigh. The nice horse accepted the small driver.

My great pleasure was to stay with my paternal grandmother and observe the multiple activities that took place on the estate. Christmas festivals and the many weddings, which were held there were particular highlights. The early death of my grandfather left my grandmother alone with a huge household. It is a miracle, how my grandmother managed to cope with all sorts of tasks without the help of her six sons who were serving in the Continuation War (1941-1944). All her sons returned home alive, but my mother's brother died. My maternal grandmother and my godparents were all very supportive of me, particularly, when my mother was ill or when she travelled to see my father somewhere near the battlefields.

The pupils who attended my country school rarely went on to study at secondary school, because they had to move to a town called Heinola. The distance was only 22 kilometers, but the public transport was poor at that time, and therefore, it was not possible to attend secondary school and live at home. My teacher, however, encouraged my parents to allow me to take the secondary school entrance examination when I had finished the fifth grade, and I passed it. I was then 10 years old. I did not know much about studying. I was 7 years old when I became aware of the fact that other languages existed. My younger sister had been in hospital and she had heard people speaking words that sounded like nonsense to her. Obviously, they spoke Swedish, the second official language in Finland spoken by about five percent of the population. There were no Swedish speaking Finns in our area. - It is so different today with television, the internet, and the ease of travelling abroad.

### Secondary school in the 1950s

My first memories from the large secondary school are associated with the feeling of loneliness. I did not know anybody. I stayed at my aunt's place. She was often away and did not feed me properly. I was hungry. My parents had arranged piano lessons for

me with a Russian woman. She was worried about my situation and asked the parents of another one of her students, who was a classmate of mine, whether they could have me to stay at their place. They agreed. I packed my things onto my bed and my classmate (who was also 11 years old) and I carried the bed with its load to her home, a few blocks from my aunt's place. Once there, I called my mother and told her that I had moved. She was upset and never fully understood why I had made this move, particularly, because my aunt never admitted to or apologized to her for any neglect. When I began the second grade of secondary school, my family moved to Heinola, because of my father's business, and the country home was sold at auction.

The secondary school consisted of eight grades, five in the lower secondary school, and three in the higher secondary school which led on to a matriculation exam. Most students left the school after the fifth grade, but it was clear to me that I wanted to continue my studies. At school, I enjoyed mathematics, but criticized the teacher for her poor teaching. I made notes about how I would teach if I were a teacher. My most positive memories are of the teacher who taught us Finnish language and literature in the higher secondary school. She encouraged us to use our imagination while writing essays. She also directed a Shakespeare play, *Much Ado about Nothing*, in which I played the main role of Hero. She also asked us to prepare a presentation about a Finnish author of our choice. I chose Aaro Hellaakoski (1893-1952), who was a scientist, a teacher, and a poet. His life and poems deeply influenced the development of my self-awareness. My scientific work on human development was perhaps anticipated by a game that I played in my teens imagining the kind of children the adults I knew had been in the past, and the kind of adults the children I knew were going to become in the future.

I finished higher secondary school in 1958 by coming first in my class, but as no one in my family had been to university, it was difficult for me to plan my academic

studies. From childhood onwards, I had only been aware of what I did not want to become: a stay at home mother and a farmer. My father wanted me to become a medical doctor, but I was not interested in biology. I worked in his office during the summer, and one day he came and asked me whether I had applied for university. When I said: No, his reply was: Be aware, that you cannot stay and continue your work here! I had to think, what should I do? I did not want to study in Helsinki, but I had heard that a new university was being established in Oulu in North Finland. It turned out, however, that students would only be admitted to this new university a year later. I was advised to phone Jyväskylä, where the Pedagogical Institute was being expanded by the inclusion of a new Liberal Arts Faculty, and my call was put through to the Rector (President) of the Institute. When he asked me what I would like to study, I asked, what could I study there? My reply was to list the three subjects in the same order that the Rector had listed them. At the end of the telephone call, he encouraged me to submit an application.

### University Studies in the 1960s

In 1958, I was admitted to the Pedagogical Institute of Jyväskylä (which became a university in 1965) to study Finnish language, literature, and psychology. I was happy about having been offered a place at the university, but my father was not, because he thought that I was becoming a schoolteacher and this was not good enough, from his point of view. When I changed my major to psychology a year later, he said that he had never seen any job advertisements for psychologists. This was true, because the profession was still young. I did not, however, study psychology in order to become a psychologist. I studied psychology because I was interested in the subject, and I was particularly inspired by Martti Takala, the professor of psychology. As my father died in 1961 at a young age, he did not live to see that I always had interesting work, which continuously boosted my social standing.

The 1960s began with my marriage to my psychometrics teacher, which meant the change of my surname from Marttunen to Pitkänen. Through my husband, I became part of the community of researchers at the Department of Psychology. This was very important to me. I enjoyed the intellectual company of my husband and the other researchers – something that I had never experienced before. My first daughter was born in 1961. I demonstrated my objection to becoming a stay at home mum by not preparing any meals until the last weeks of my pregnancy, when I was too big to go to restaurants. At the end of my maternity leave, we hired a woman to work in our tiny studio, and at the age of 21, I was a married woman who had to supervise somebody to take care of the housework and the baby. My husband had said that my studies and work were fine with him as long as I took responsibility for the tasks that “belonged to women”. He never did any domestic chores. However, when her first grade teacher asked our daughter, what do your parents do? She answered that her mom was preparing a doctoral dissertation and that her daddy was washing the clothes! She did not know what her daddy was doing, but she had heard that, after her birth, her father had gone to a shop and bought a primitive washing machine, when I had asked him to wash the baby’s clothes. We had wonderful girls who stayed with us for years, and I am deeply grateful to them for making my work outside the home possible.

My younger daughter was born in 1964. I enjoyed the children and became interested in their development and in an important issue: whether parents can protect them from negative influences, such as the substance use that was increasing at the time. At present, my younger daughter (Tuuli Pitkänen, 2006) is an Adjunct Professor whose doctoral dissertation on alcohol consumption was partly based on the longitudinal study that I conducted. When she was 11 years old, she said that she was going to become an associate professor to continue her mom’s work: “Who else but me would do it?” My eldest daughter (Merita Petäjä) dreamed of becoming a teacher trainer. These days she, a psychologist by

training, is in that position as a Project Manager at a university and as the Director of Theatre for Business in which she uses drama methods in her consulting work to mirror and improve organizational life.

From my first weeks at university onwards, I worked at the university library. In my third year, Professor Takala invited me to work as his research assistant and later, as a teaching assistant. His research work concerned children's motivational characteristics as defined by Murray: the need for achievement, affiliation, and aggression. I was puzzled by the inconsistent findings of different measures. I started to develop my own hypothesis about the multidimensionality of motivational characteristics. I chose aggression, because it was more easily observable than affiliation or achievement, and because the phenomenon of aggression puzzled me. I constructed a model (Figure 1) that included the intensity dimension and qualitative dimensions for defensive (reactive) versus offensive (proactive aggression), and direct versus indirect aggression (see Pulkkinen, 2014, 2017). I tested the model with kindergarten teachers' observations of 6-year-old boys and found that the model was relevant. The results were included in the first part of my doctoral dissertation (Pitkänen, 1969).

#### Figure 1

The study revealed that only a few children were frequently aggressive. I became interested in how to describe children who were not aggressive in order to understand how to encourage positive behavior (Pulkkinen, 2017). Non-aggressive behavior in children was not a theme that was being studied in the literature; the boom in studying prosocial behavior did not begin until the late 1970s. As a result of an intensive period of thinking based on the available literature on frustration and coping processes, in 1967 I had the novel idea that the human brain allows for more variation in behavior than just the "fight or flight" response known from animal studies of aggression. I speculated that it is the human being's

capacity for cognitive control over his or her emotional behavior, which makes him or her capable of deciding between alternative behaviors. I devised an impulse control model to depict behavioral alternatives, tested it in 1968 with 8-year-old children (N = 369, 52% males) by gathering teacher and peer ratings of aggressive and non-aggressive behaviors. For this method, I harmonized some aggression items with those used by Walder, Abelson, Eron, Banta, and Laulicht (1961), which made it possible to carry out comparative studies between these two longitudinal studies on aggression forty years later (Kokko et al., 2014).

The results at age 8 supported the impulse control model. They were published in the second part of my dissertation (Pitkänen, 1969). This cross-sectional study was the starting point for *the Jyväskylä Longitudinal Study of Personality and Social Development (JYLS)*, although it was only in the Discussion section of my dissertation that I foresaw that: "A longitudinal study would make it possible to examine the stability of the individual patterns of behavior" (Pitkänen, 1969, p. 190). The longitudinal study of Kagan and Moss (1961) had impressed me.

The participants in the study were born in 1959. They were native Finns, children of people who had survived the war: the average birth year of their fathers was 1929 and that of their mothers was 1932. When the participants were growing up, Finland was slowly recovering from the war. The sample was formed by drawing 12 school classes randomly from the schools of a town with the population around 60 000 located in Central Finland. It is both a university and an industrial town. All pupils in these classes were studied using peer and teacher ratings (see Pulkkinen, 2017, pp. 24-25), as accepted by school authorities; gaining parental consent was not required in 1968, and thus it did not cause any sample bias. The sample represented the social structure of Finnish population in the 1960s. When the participants were 42 and 50 years old, the distributions of several demographic variables among them were compared with those in the age cohort born in 1959 (N ~75,000)

as obtained from Statistics Finland, and they were found highly similar. At age 50, the retention rate from the initial sample was 73% for males and females, and the participation rate from the eligible sample was 84% (Pulkkinen, 2017, p. 16-21).

At the time of my PhD, doctoral dissertations in my field were generally in Finnish, but I wanted to publish my dissertation in English in order to make it internationally available. I had only taken a short course in English, and therefore, I needed the help of a student translator. During the translation process, I worked very hard on the draft translations, as I needed to provide the translator with adequate terminology. As a result, I had a heart failure caused by a serious burnout. My five-year-old daughter came to my bedside and said, Mom, go on tapping (for her, the tapping sound of the typewriter meant that all was well).

#### The search for a position in the 1970s

At the beginning of the 1970s, I was aware that I had to go abroad to learn English. I applied for a British Council scholarship to study at Sussex University and was awarded the scholarship for the 1972-73 academic year. The funds that I received were not enough to support the whole family, and since I could not leave my children behind, I hired a young woman who spoke some English to look after the children, packed her and my own children into a Volvo, and started to drive towards England. We encountered many problems, but we managed well. My children attended a local school, and I was happy to have Professor Marie Jahoda, my first female academic teacher, as the supervisor of my postdoctoral studies. Through her project on the Ugandan Asians that Idi Amin had expelled to England, I learned to understand difficulties of non-Europeans in settling down in England, as well as a new semi-structured interview technique and a form of data processing both of which I later employed in the longitudinal study.



I had to pay a heavy toll for my rich experiences during my postdoctoral year. In early spring, my husband wrote to me to say that he wanted a divorce. The return home was hard. In 1975, I married Paavo Pulkkinen, the Associate Professor of Finnish language at Jyväskylä. He was a widower with one son, and thus we had three adolescent children in the house. He played the violin and I sang in a choir; music was our shared and beloved hobby. We lived happily together until his death in 2018, by which time we had 12 grandchildren (b. 1983-2004) and 3 great-grandchildren together. My husband was a great support to me in many ways during my busy years, not least through his cooking and the editing of my Finnish texts.

I was an associate professor in education before going to Sussex, but came back to an appointment as associate professor in psychology. My first tasks included supervising the Master theses of six students. To trace the children I had studied in 1968 for my doctoral dissertation when they were 8 years old, I received a small grant from the Academy of Finland. However, it did not even cover the cost of materials, such as the tapes on which to record the interviews. Unique personal identification numbers were not yet available, and therefore, we traced the sample by using school records and other sources. The participants were found to be located in 78 classes (they were originally in 12 classes) in several municipalities. We worked with great enthusiasm. Teacher and peer ratings were collected for 96 percent of the initial sample (369 children), but the interviews with the participants and one of their parents had to be limited to a selected group from the initial sample (see Pulkkinen, 2017). With another group of Master degree students, we eventually conducted semi-structured interviews with this selected sample again when they were 20 years old (in 1979-80) aiming to understand the young people's lifestyles and growing independence from their parents. I also organized the collection of the criminal records for the whole initial sample.

In 1977 I published a book *Kotikasvatuksen psykologia* [The psychology of rearing children], in which I described the results that revealed the continuity in children's socioemotional behavior from 8 to 14 years of age, both in terms of aggression and different types of non-aggressive behaviors, as well as factors affecting the development of self-regulation, particularly, child-centered parenting. The book explains how parents can organize their behavior from the perspective of the child, by providing a context in which the child can feel the parents' warmth and acceptance, sustained involvement and interest in his or her activities, opinions, and need for comfort and guidance. I applied the research results to day care settings and prepared with students a program to improve children's self-regulation and to strengthen constructive behavior.

In 1979, I was invited by Finland's Government to sit as an expert member on a parliamentary committee whose task was to define educational objectives for daycare. I was successful in convincing the committee that the task of daycare is to support the parents in child rearing. Moreover, daycare settings with a homely atmosphere, good quality of the relationship between the caretaker and the child, and opportunities for children's activities, have a strong impact on children's development in all areas: physical, social, emotional, intellectual, aesthetic, and ethical (Committee Report, 1980; Pulkkinen, 1989). The Parliament amended daycare legislation accordingly in 1983, and the importance of peace education in day care was included in the legislation. These day care objectives and guidelines remained in force until 2015.

Scientific conferences opened to me doors to international contacts. I attended many conferences of the International Society for the Study of Aggression (ISRA), from its first conference in 1974 onwards, became its council member, and volunteered in assuming responsibility for the scientific program of the Sixth International Meetings of ISRA in Turku Finland, in 1984. In 1976, I was pleased to be invited by Adam Fraczek to Warsaw to a

meeting of researchers working on the theme of aggression, among them, Norma and Seymour Feshbach. There I gave a presentation in a symposium chaired by Professor Paul Mussen from Berkeley. He invited me to visit him in 1977. This was very important for me. I enjoyed the American research atmosphere that encouraged innovations and I learned to know Jeanne and Jack Block with whom I shared many ideas (see Pulkkinen, 2017, p.p. 59-61). I became friends with Paul Mussen and his wife, and later stayed with them at their home on a number of occasions. In their home, I met Nancy Eisenberg, Paul's former student and then Professor at the Arizona State University. In 1992, I took over her professorship for half a year. Paul encouraged my applied interests and became an important mentor.

A meeting with Professor Urie Bronfenbrenner at a conference, led likewise to us visiting one another. He also encouraged my applied interests and ecologically valid research. In a research seminar held in his back yard on a Sunday morning in 1984, I met his bright student, Avshalom Caspi, with whom I later produced a book based on an international conference that I organized in Finland (Pulkkinen & Caspi, 2002). When I saw how enthusiastic Urie was about his new personal computer, I thought, "I will also learn to use one of these" and bought an Apple IIC that soon became my most important domestic appliance!

#### Breaking through the glass ceiling in the 1980s

At the 1979 Biennial Meetings of the Internal Society for the Study of Behavioural Development (ISSBD, Lund), Professor Paul Baltes chaired my symposium. He invited me to write an article based on the JYLS, in which I described the role of self-control in individual differences in aggression and nonaggression (Pulkkinen, 1982). He also pulled me into the activities of ISSBD with the result that in 1989, I organized the 10<sup>th</sup> Biennial

Meetings of the ISSBD in Jyväskylä, Finland, which included around 800 foreign participants.

In 1982, a conference was organized by Dan Olweus in Norway, where I gave a presentation on impulse control (Pulkkinen, 1986), and was able to make new acquaintances, including Robert Hinde. I shared with him an interest in peace education (Pulkkinen, 1989) and aggression (Hinde & Pulkkinen, 2001). Robert became Master of the St John's College in Cambridge and invited me to visit the university as an overseas visitor in 1999. At the beginning of the 1980s, I had analyzed the criminal registers of the study participants (Pulkkinen, 1983), and I was pleased to receive an invitation to attend a European Science Foundation workshop on psychosocial risks in development held in the UK (Pulkkinen, 1988). There, for the second time, I met David Farrington with whom I shared an interest in delinquent development. This led years later to visiting the Criminological Institute at Cambridge, which was directed by Friedrich Lösel at the time, and to David and I co-editing a special section for the journal *Aggressive Behavior* on life span longitudinal studies of aggressive and criminal behavior.

In 1982 I was invited to attend a prestigious National Civil Defense Course (for four weeks) organized by the Finnish Ministry of Defense. I had become interested in peace education, against the backdrop of the threatening cold war atmosphere of the time, which included the possibility of a nuclear war, and I criticized the official defense policies for being too militaristic and not highlighting the importance of peaceful cooperation. My proposal that the female perspective on defense politics should receive serious consideration led to the formation of a group of influential women to work on this matter. Our 1986 report outlined new ways of thinking that were later incorporated into official documents. I ran a project, funded by the National Board for Social Welfare, in which we developed material for peace education in daycare.

When I received the commendation of the 1983 Woman of the Year in Finland, I promoted peace education. I felt that I had to speak up about constructive behavior as an alternative to aggression and violence. Additional activities in the applied field included the establishment of an NGO for strengthening the significance of child rearing and working to establish a multi-disciplinary family research center at the University of Jyväskylä.

I was successful in receiving grants for the continuation of the JYLS in 1986 when the participants were 27 years of age. Once again, I worked with Masters' students to collect data from the whole initial sample (retention rate for males 90% and for females 85%). The participants' addresses were obtained through the Population Register Centre. We used semi-structured interviews for the study of the transition into adulthood and personal life styles.

I came up against the glass ceiling in 1982 when a deputy professor was needed to replace Martti Takala, Professor of Psychology, who had been elected President of the University. The then female Minister of Education appointed me, because several parties had appealed to the Ministry of Education as an opposition to the proposal made by the mostly male Faculty for appointing a male candidate. I was aware that there would also be stiff competition for Takala's professorship at his retirement in 1989, and thus the need to increase my credentials for this post. I had, however, very little time for research. In addition to my scientific work and organizing the ISSBD Biennial Meetings in Jyväskylä in 1989, I was in the 1980s the Head of the Department, and for two years I was the Dean of the Faculty of Social Sciences. Thus, it was a day of joy, three days before my 50<sup>th</sup> birthday: all of the external reviewers had ranked me first. The President of Finland appointed me in February 1990 as the full professor of psychology. I was the successor to my dear and respected mentor, Martti Takala, who 30 years earlier had revealed to me, a country girl without an academic background, the treasures of psychology and science.

### Prime time in the 1990s

The 1990s decade had much to offer me. I received the honorable position of President of the International Society for the Study of Behavioural Development from 1991 to 1996. It meant participating in many committees, meetings, and workshops across all continents. I was particularly interested in and impressed by our workshop series in Africa. My closest collaborator during that time was Rainer Silbereisen.

The Academy of Finland appointed me the Academy Professor from 1996 to 2001, and in 1997, our research unit was appointed the National Center of Excellence for Research on Human Development and Its Risk Factors. I was the chair of the Center for nine years, and Sir Michael Rutter from UK was the Chair of the Advisory Board. With the funds available from the Academy of Finland, we continued the JYLS in 1996 by collecting data with the then 36 years old participants on many areas of psychological and social functioning. The retention rate was 85%. We used internationally known inventories and conducted more structured personal interviews than we had done previously, because coding semi-structured interviews had turned out to be too time-consuming. I integrated the concept of emotion regulation, which had become a hot topic in the literature, into the impulse control model (see Pulkkinen, 2014, 2017). I was also able to establish a laboratory to study the self-regulation of the offspring of the longitudinal participants on the funds for Academy Professor.

At the same time, I became involved in another longitudinal study when Richard J. Rose, professor of Psychology and Medical Genetics at Indiana University, Bloomington, approached me and invited me to participate in a twin study, FinnTwin 12, with expertise in the study of children. This collaboration has continued to the present day and has expanded internationally (e.g., Bartels, Hendriks...Boomsma, 2018). The twin study increased my understanding of genetic and environmental factors in the development of aggressive and non-aggressive behaviors (Pulkkinen, Kaprio, & Rose, 2006).

In the 1990s, I worked abroad for various periods of time, in Berkeley; Arizona State University; the University of North Carolina, Chapel Hill; and Cambridge University in order to find time for writing without being interrupted by the flow of various invitations to meetings and requests to give speeches. In 1992, the Finnish Union of University Professors elected me the Professor of the Year. In my speech of thanks, I proposed the increase of cooperation between universities and the creation of the National Faculty of Psychology covering all six universities that offered trainings in psychology. Even with all six universities put together, our resources were less than in one American university. This idea later developed into the form of a university network Psykonet, within which we still collaborate on many levels. I was the chair of the Psykonet for two years.

Furthermore, my efforts to establish the Family Research Unit at the University of Jyväskylä led to its founding in 1990; however, the university did not provide resources for it. I directed the Board and activities of the Unit until 1995 as part of the remit of the Department of Psychology. The new female President of the University was supportive of our family research activities and provided us with her backing. In 1996, Eeva Ahtisaari, the spouse of the President of Finland invited me to the President's residence with a request to speak to a small group of guests about a family matter that was concerning me. I spoke about children's lonely afternoons. A reason for them is the half-day school tradition in which the school week for seven to nine-year-old children is only about 20 hours long, while both parents work 37 to 40 hours per week (Pulkkinen, 2012). Mrs. Ahtisaari offered me her help and we made this problem visible in many ways. I was very pleased that Mrs. Ahtisaari attended my 60<sup>th</sup> birthday party in 1999.

Other activities included serving as a member of the Board of Governors for Statistics in Finland from 1996-2002 and the Task Force on the National Strategy for the Centers of Excellence Policy where, in 1997, I floated the idea of the Psyko-center (similar to

the Biocenters established at other universities). This idea was received very positively in Jyväskylä, and within three years, new premises were built to house the Psykocenter and Info-Tech-Center, which we combined under the name ‘Agora Center’ with the mission to promote human-centered technology.

### “Retirement” in the 2000s

The Agora Center that we created offered an excellent multidisciplinary context and infrastructure for research. The Center of Excellence, including also a longitudinal study on dyslexia conducted by Heikki Lyytinen, professor of neuropsychology, was relocated to the Agora Center. The national Center of Excellence Policy brought generous and long-standing funding for our research projects from the Academy of Finland and resources from the University of Jyväskylä. New data were collected with the longitudinal participants of our study when they were 42 years old (in 2001) with a retention rate of 77%. We repeated the measures used at age 36 as much as possible and added medical examinations. The data was saved in the Finnish Social Science Data Archives. Excellent doctoral dissertations were completed.

The confirmation of longitudinal research findings in other countries is necessary in order to understand what is universal in the results. International collaboration involved comparative studies on aggression with Canadian (Pulkkinen & Tremblay, 1992), Swedish (Kokko, Bergman, & Pulkkinen, 2003; Pulkkinen, Virtanen, af Klinteberg, & Magnusson, 2000), US (Dubow, Huesmann), and multiple data sets (Duncan et al., 2012; Kokko et al., 2014). From 2003-2013, Dr. Katja Kokko and I were members of the Center for Analysis of Pathways from Childhood to Adulthood (CAPCA) coordinated by Michigan University, USA, which focused on the comparative analyses of longitudinal data sets.



I received prestigious invitations to act as a member of the Science and Technology Policy Council of Finland, chaired by the Prime Minister (2002-2005), and as a member of the Board of Governors for the Finnish Academy of Science and Letters (2003-2008). I also took on international tasks, such as member of the International Advisory Panel of NORFACE (New Opportunities for Research Funding Agency Co-operation in Europe), 2004-2009, and sitting on the Expert Panel for Psychology in charge of the project of the European Reference Index for Humanities, from 2007-2010 (serving as the chair for the last two years).

A group of Finnish Parliament members invited me to develop a program to improve schoolchildren's social skills and reduce aggression. I designed a pilot of a school day, which integrates learning as well as extra-curricular activities. I directed the project for three years (2002-05). The Minister of Education chaired the Project Board, and the Speaker of the Parliament was its patron. The results confirmed the benefits of the integrated school day to reducing children's anxiety when loneliness was reduced, and particularly, the value of the arts in improving social skills and skills for work (such as concentration). The project led to amendments to school legislation in 2004, mandating municipalities to provide morning and afternoon activities for 1<sup>st</sup> and 2<sup>nd</sup> grade children (Pulkkinen, 2012).

When I turned 65 years in 2004, the prevailing law forced me to retire (a more flexible law was passed in 2005, but I was born 2 months and 2 days too early to benefit from this). I was however, allowed to work at the university after my pension. I continued with my research work, with supervising doctoral students, and other activities. When the JYLS participants turned 50 years old, it was time for a new round of data collection. I applied for funding, and the Academy of Finland awarded it for 2009-2012. In 2013, I transferred the role of the Principal Investigator to Dr. Katja Kokko, who had participated in the JYLS since 1995, first as a Master and doctoral student and later as a colleague. She is now Research

Director at the Gerontology Research Centre of the University of Jyväskylä. To my delight, she will be collecting new data from the JYLS participants as they turn 60 in 2019-2020.

### Integration in the 2010s

It had been in my mind for years to write an English book about the JYLS, and the new decade brought more room for it. The aim of my book (Pulkkinen, 2017) was to outline a broader picture of human development than the detailed analyses for specific research questions published in articles for scientific journals. Metaphorically expressed, the process of writing the synthesis of the articles was like assembling a huge jigsaw puzzle without seeing the completed picture in advance. The picture included many details, from which the impulse control model was the most relevant one for me.

The results revealed four paths from childhood to adult styles of life, which differed in behavior and emotion regulation as depicted schematically in Figure 1. The development of the styles of life is a cumulative process associated with parenting, living conditions, and genetic factors. The paths are based on personality characteristics, educational attainments, work success, human relationships, health behavior, and adjustment into society. Impulsive, self-focused behavior in childhood increases the likelihood of aggression that tends to be linked with other types of *under-controlled* behavior, which is predictive of further problems in social adjustment. At the other end of the dimension for behavior regulation is norm-focused, compliant behavior. If it is consistent and strict, it may lead to the style of life termed *Over-controlled*. In the dimension of emotion regulation, children's constructive behavior including active coping with a problem, positive thinking, and consideration of others, leads to the *Resilient* style of life and successful adulthood in work and human relationships leading to mental well-being. Low emotion regulation, in turn,

may lead to anxiety and helplessness in handling the situation, and the style of life termed *Brittle*.

### Figure 1

Human beings are capable of reflecting on their own behavior and emotions and can be agents of their own lives. Children's development can be promoted by encouraging their unique individuality and agency, guiding their adaptation to the complex society, and enriching their experiences with culture. In my applied work, I have highlighted the role of child-centered parenting and school environment enriched by the arts and other extra-curricular activities to promote children's positive development.

In 2009, I was invited to serve on the Advisory Board of the Family Platform funded by the European Union's Seventh Framework Programme. I was very pleased to join the Board, due to my interest and engagement in family research. There I met like-minded people with the result that in 2012 I joined the Alliance for Childhood European Network Group (based in Brussels). Its mission is to improve the quality of childhood in Europe. I became a member of the Council and one of the editors of books, which were based on a series of speeches on the quality of childhood delivered in the European Parliament house ([www.allianceforchildhood.eu](http://www.allianceforchildhood.eu)). In Finland, I was instrumental in the establishment of the Haukkala Foundation, which supports children's welfare ([www.haukkalansaatio.com/English](http://www.haukkalansaatio.com/English)). In addition, the Ministry of Social Affairs and Health invited me to serve as the co-chair of the scientific committee of a governmental project to improve social services for children and families. These activities satisfied my interests in the applied field. To me, the ultimate goal of research work is to increase understanding of life and advance well-being in society. I was proud when I saw in a magazine a characterization for me: Speaker for Children.

In 2014, I moved to Helsinki, but my scientific and applied work continued. I was and still am deeply sorry that the new President of the University dissolved the Agora Center, highly successful in its multidisciplinary work, in 2017. The problem – as far as I have understood - was that administratively it did not fit into the classic structure of the university. In my mind, it represented a new way of thinking and working in networks of researchers across disciplines. My name remained, however, in the former location of the Agora Center where meetings are held in the Lea Pulkkinen Hall!

### **The lessons learned for a more peaceful world**

The concept of ‘peaceful world’ includes different levels such as the lack of war between nations; the lack of violence between groups; and the lack of violence between individuals. Individual aggressiveness can be observed in violence between groups and individuals, but it rarely plays a part in international wars, as noted by Hinde and Pulkkinen (2001). A war is an institution in itself. It may induce revenge, or at times aggressiveness might be encouraged, but generally, aggressive killing is not allowed. War is a military-industrial-scientific complex, a nested set of institutions, where the career ambitions of individuals are driven by the arms industry, scientific recognition, and heroic behavior. Nevertheless, I have found it important to work at the individual level, because nonaggressive individuals have the ability to create a culture of peace and cultivate a will for peace. According to the UNESCO recommendation of 1974, member states should strengthen the contribution of education to international understanding and cooperation, to the establishment of social justice, and towards the eradication of prejudices against other groups and nations (Hinde & Pulkkinen, 2001). The development in Europe, through the establishment of the European Union, has been promising for a more peaceful world. Finland has been a member since 1995, but it does not belong to NATO.

My personal research work on increasing understanding of both aggressive and nonaggressive behaviors was motivated by my childhood during the Second World War and thereafter in the independent but partly ruined country that struggled to pay the enormous war reparations to its attacker. All energy had to be mobilized for the rebuilding of Finland. It also became part of my nature to work hard and to do my best in whatever I took on. My energy resources have been vast as were those of my grandfather who worked hard and effectively for his estate and community before the war. I also recognize that my mother's wise parenting has helped me to grow through various developmental processes towards generativity that reflects a willingness to care about people and the things that one has produced (Erikson, 1963). Supportive parenting and the socially active behavior of the child are prerequisites of generativity in our JYLS sample. Generativity correlates in adulthood with people-oriented behavior, career management, and psychological and social well-being, and with being a parent, which is also true for my life and me. Having children of the same age as the study participants motivated me to begin and continue the longitudinal study. Becoming a grandparent has given me wonderful opportunities to observe the development of individual differences in children.

What are the results of my work that might contribute to building a more peaceful world? First, an increase in the understanding of aggression that I would not define as an individual's need or a personality trait, but a vulnerability trait that causes risks to social and personal adjustment. My studies on aggression over five decades resulted in 28 insights into aggression (Pulkkinen, 2018), for instance, differentiating between self-defensive reactive aggression and proactive aggression without a provocation. In my understanding, aggression is primarily a self-defensive reaction that can be learnt to be regulated. In unfortunate living conditions (also for neurological reasons), this learning process may remain underdeveloped or external conditions may become overwhelming, which may cause

the excessive use of aggression for self-defense. Aggression may also be learnt to be used proactively if it is found to be effective in gaining power over other people or in producing suffering in others that may satisfy an emotionally unbalanced mind. Proactive aggression is a high risk for criminal behavior among those whose level of childhood aggression is above the 75<sup>th</sup> percentile. Continuity of aggression from childhood to adulthood exists if aggression is high both in childhood and in adolescence. Knowing this, I find it important that ways are found to reduce aggressive behavior during the school years and to encourage constructive behavior.

I am thankful to my students and colleagues for their productive teamwork, and to the University of Jyväskylä for providing us with excellent working conditions. I am also thankful to Finnish society for funding this work. My mission to work for a better world for future generations was based on a call that I received in the 1970s and that has given me much strength.

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## Figure captions

Figure 1. A descriptive model of aggression.

Source: Pitkänen, L. (1969, Figure 1, p. 29)

Figure 2. The model for the Unfolding of Socioemotional Behavior.

Source: Pulkkinen (2017, Figure 4.1, p. 50).

Figure 1

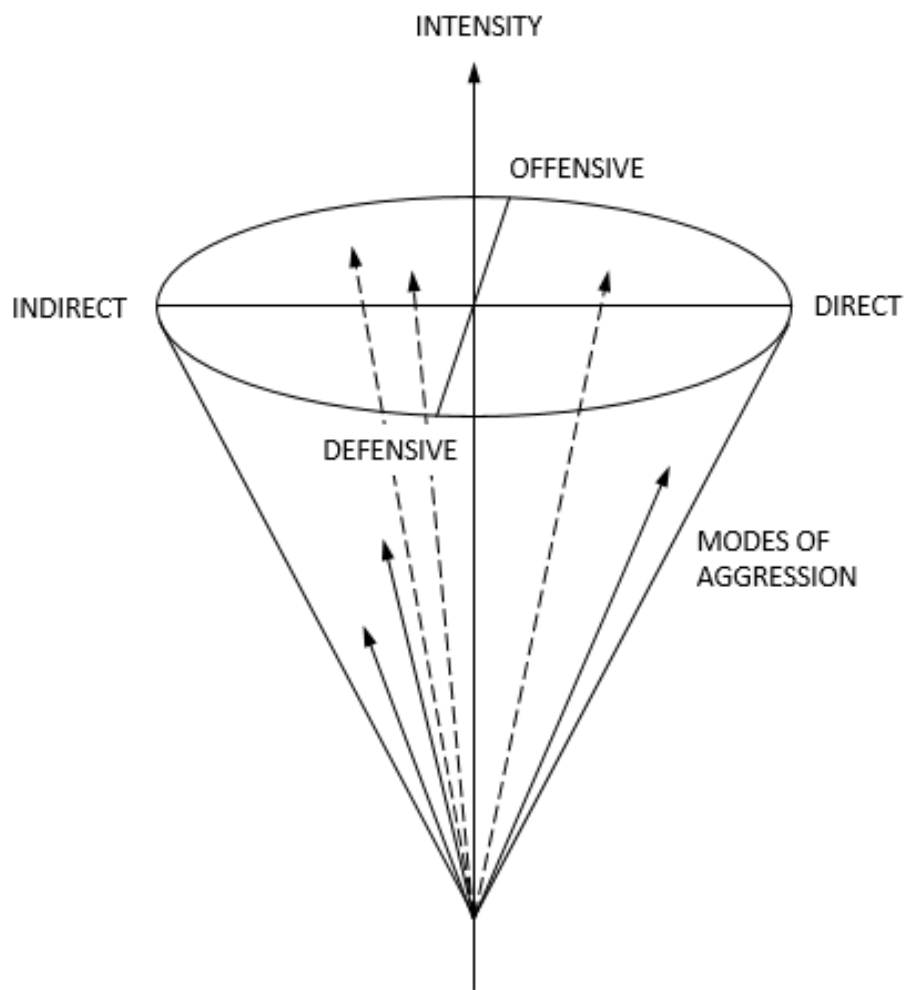
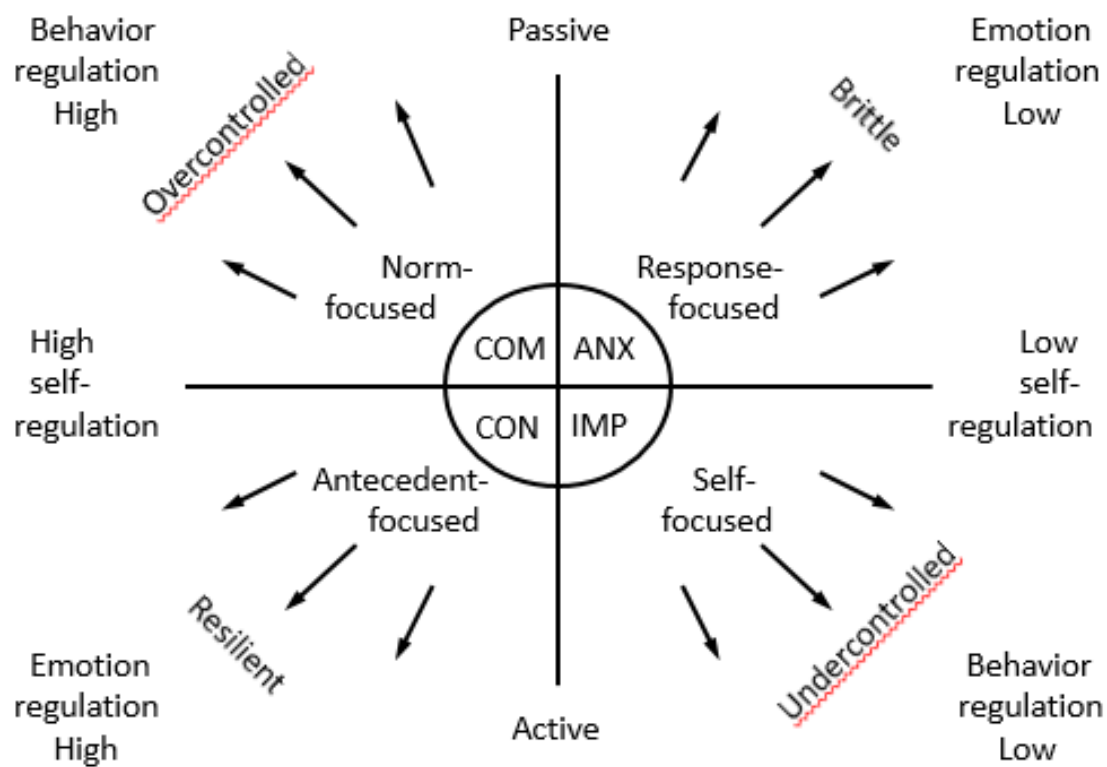


Figure 2



*Lea  
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