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**Abstract**

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The study concerns the instability of the child's environment. Methodologically, it represents the life event research tradition.The theoretical framework combines features of stress theory, McReynold's theory on the impact of cognitive incongruence and Pulkkinen's theory concerning self-control in children.

The study consisted of four parts, which cover the most central phases of life event research.

Study A consisted of ratings made by 70 Finnish child guidance workers on the readjustment required at four age levels by 30 life events. The results showed that the death of the mother was rated as the most serious event at all age levels. There were considerable differences between the ratings for the different age groups. The re-test reliability was very high, about .85. There was a remarkably high correspondence with data obtained in other countries, especially when the wording of the events was identical.

Study B concerned the occurrence of both single life events and indexes of abundant change. Study C concerned their impact. In study C, data were gathered using the thematic interview, a semi-structured method, partly developed by the author for this study. The results showed that children who had experienced much change showed weak self-control and many behavioural problems. Study D analyzed the maternal factors affecting this relationship. A lack of planfulness and initiative in the mother as well as her anomia were connected with the child's weak self-control, especially in the high change group.

Life events. life change. readjustment ratings for children. self-control. child rearing as social support. planfulness.semistructured interviewing.

PREFACE

This study concerns a relatively new research area: children's life events. It covers the occurrence of such changes as a divorce, deaths, changes of day-care caretaker, changes of school, etc. It also covers ratings of their severity and analyzes their impact, as well as the impact of environmental instability or a series of individual changes. Finally, it studies factors modifying the impact of life changes.

This study would not have been possible without the cooperation of the many mothers who participated in the interviews. I use the opportunity to thank them all here. They thaught me much about life events and life in general.

The single most important influence on this study has been that of Professor Lea Pulkkinen. This work owes much to what I have learned over the years from working with her. She encouraged me to explore the problem of environmental instability during childhood and gave me invaluable advice and assistance during all phases of my work. I am also grateful for her detailed comments on the manuscript as well as for her editorial advice.

In addition, I would like to express my deep appreciation to Professor Tapio Nummenmaa. He read the manuscript and his shrewd comments forced me to clarify and integrate the concepts and to make the study more readable. I also thank Professor Martti Takala, Head of the Department of Psychology, for his encouragement and interest in my work. My thanks also go to Professor Isto Ruoppila for introducing me to questions of developmental psychology. Likewise, I wish to thank my colleagues for a stimulating working environment.

My thanks are also due to all those child guidance workers around the country who rated the children's life changes. I especially wish to thank Helmi Munukka and Maija Haukkamaa, who introduced me to children's life changes during our discussions. For long discussions which finally led to the publication of a common book on our common interview method I wish to thank Sirkka Hirsjärvi.

Many individuals helped me in gathering and analyzing the material of my study. I especially appreciate the help of Heleena Hurskainen

and Leena Halttunen, who conducted part of the interviews. Mauno Väisänen from the Computer Centre of the University of Jyväskylä processed the data of the first study and also later advised me about problems of data processing. Kari Itkonen helped me to process some of the results. Loraine Johnson checked the language of an early version of the manuscript and Graham Dulwich the English of this report. Helena Annala typed the manuscript and Hannele Enervi-Niemelä drew the figures. I thank them all.

The fact that I had the opportunity to work as a research assistant for the Finnish Academy in 1976-1979 made this study possible. For this I wish to express my gratitude to the Academy. My thanks are also due to Jyväskylä Studies in Education, Psychology and Social Research for including my work in their series of publications. I especially wish to thank Aira Lehtinen, M.A., for her valuable advice. I would also wish to take this opportunity to thank the whole staff of the University Library for their perfect service and tolerance over the years.

Last but not least I owe my warmest thanks to my husband, Toivo Hurme, who gave me unfailing support during my work and who helped me to cope with the life changes connected with it.

I wish to dedicate this study to my mother and my late father, who offered me a stimulating and relatively stable childhood and who encouraged me to continue my studies.

Jyväskylä, December 1980 Helena Hurme

CONTENTS

# 1. LIFE CHANGES AND THEIR IMPACT

## 1.1. Introduction

Until the beginning of this century, the history of childhood was a history of cruelty even in the civilized world. Children were beaten and murdered and they had to work inhumanly hard. This situation still prevails in many parts of the world. In contrast, most Finnish children live quite well nowadays, and especially their physical well-being is well cared for. Our standard of housing is very high, our health system well developed and our children do not starve.

The development in Finland is, however, not only positive. One characteristic feature of modern life is that it contains more changes than before. A Finnish child of today changes community and dwelling more often than a child some decades ago. A change of school is often connected with the move. His mother is employed more often nowadays and therefore the child often has to go through a series of varying day-care arrangements. The divorce rate in Finland has continually increased. Today, the child is separated from his parents because of illness, whereas formerly patients were treated at home. Although the number of deaths of relatives which the child encounters has probably not changed, the nature of death has changed in its being transferred to hospitals, and thus mystified. These and other life changes have made life today more unstable than formerly.

It is only during the last few years that the concept of life change or life event has been used in the psychological literature on child behaviour. The child's reactions to these phenomena, e.g. a death or

a divorce, have been studied for decades, however. The introduction of the term 'life change' or 'life event' emphasizes the common denominator, change, of such widely different occurrences as the death of a parent and the hospitalization of the child, for instance.

In the literature, the term 'a life change' and 'a life event' are used as synonyms, designating any central event in the life of an individual. There is no absolute rule for calling an occurrence a life event or a life change, but usually they have a clearly discernible beginning and they are abrupt, sometimes even dramatic. The most salient feature is, perhaps, that they do not pass without attention or without leaving a trace. They all reflect what Berlyne (1963) has called collative qualities, i.e. "stimulus properties like novelty, surprisingness, change, ambiguity, incongruity, blurredness, and power to induce uncertainty" (p. 290).

The term life change is sometimes also used as a measure of the instability of the life of an individual. In this sense abundant change may be used as an opposite to a small amount of change. This use of the term is usually based on the assumptions that it is possible to rate the severity of different changes and that the sum of these ratings forms a measure of instability. A mere count of single life events sometimes forms a measure of life change.

## 1.2. The impact of changes on the child

An adult who has experienced, for instance, a divorce, an illness, or the death of someone close, knows that a life change often implies a total re-evaluation of values, a situation in which one has to decide which things are important, and which not. Everything up to that time may have to be questioned and the continuation of life may seem uncertain because of a lack of predictability. A life change usually also implies a re-evaluation of resources, because the individual is in a situation where his habitual patterns of behaviour are no longer valid. The situation may also be confusing because the attitudes of other people change as the individual's role changes - he becomes a widower,

a patient or a single parent. In fact, an immense feeling of loneliness and helplessness is often connected with a life change despite the fact that the individual is surrounded by other people.

It is far more difficult to describe the impact of life changes on the child. An adult may remember his own childhood and events which changed his whole life, for instance, moving to a new house and observing the curious glances of the new neighbours, or the confusion when grandfather's coffin was put into the grave and covered with soil and grandfather never again went fishing. An adult may also observe the child's confusion when he sees his mother in the hospital, or the joy when he gets a room of his own. It is, however, extremely difficult to catch all the pain and joy connected with the life changes experienced by the child because the child differs from adults in many crucial respects which interfere with the impact of life events.

### 1.2.1. Factors affecting children's perception of events

Especially Piaget's theories and experiments have shown that the child's conception of the world differs from that of an adult, with his time orientation and his causal thinking being different. All these factors enhance the effect of events on the child.

Single, clearly discernible features are important for the child's perception (c.f. Piaget & Inhelder 1967, Siegel & White 1975). They help him in structuring the world and create a feeling of familiarity and continuity. In connection with a move it is precisely these features which aid in orienting which are lacking. An illness of a parent, for instance, may also change him and an unfamiliar hospital environment may enhance a feeling of enstrangement.

In addition, the child's conception of time differs from that of an adult (c.f. Malrieu 1953, Piaget 1969) in a fashion which increases the impact of life changes. The child is not able to perceive so distant a future as an adult and waiting is therefore a hard experience for the child. For instance, waiting to see a divorced parent may be difficult because the child is not able to distinguish a month from a year. Moreover, the memory of a young child is so short and his sense of continuity so undeveloped that as a consequence of too few and too

distant meetings, the child may not longer recognize his parent. This may happen in connection with, for instance, a divorce or a hospitalization of either the child or a parent.

The child's undeveloped causal thinking as well as his egocentrism may also interfere with life changes. The child may blame himself for the changes. He may, for instance, think that a divorced parent does not return because he has been naughty. In general, as the child's thinking develops through stages, there are clear age limits before which he does not understand the character of the changes, e.g. death. Of course, the child makes his own interpretations of the events, but the possibility exists that the world appears as nothing but confusion if it is full of inexplicable events.

It seems evident that a certain degree of familiarity and structurization is important for children. This is especially seen with mentally retarded and brain damaged children, but the younger the normal child is, the more important it is for him as well. This does not imply that the child should be protected from all possible changes, but rather that he should become accustomed to the fact that changes occur and that losses are a natural part of life. A change is not always negative. On the contrary, it is a central means of learning in life. But if the child has to go through too many changes too early, he may develop an image of life characterized by instability and transitoriness. He may be unable to make close contacts as an adult because he has learned that people come and go in his life or he may develop a fatalist conception of the world because it seems like unpredictable chaos.

### 1.2.2. The cognitive backlog and its consequences

The idea of studying the effect of single changes is very old. In fact, its roots lie in the medicine of antiquity, and it has continued in the life history research tradition (e.g. Roff & Ricks 1970), as well as in, for instance, crisis research. These are also numerous studies which concentrate on the impact of one single type of event, e.g. a change of residence. Often, however, the study of the impact of many

very common changes has been neglected, and only the most serious ones, like a death or a divorce, have been the target of study. The most common conclusion of studies on single events is that, in many cases, they have a negative impact (see Section 4.3.4.).

Why, then, are single life events or abundant change assumed to affect the individual? Although this question is extremely difficult to answer, an attempt is made below to make a synthesis of several theories pertaining to this problem. The synthesis certainly does not contain every factor which might have a bearing on the question, but it should help in understanding the processes underlying the impact of life changes.

McReynolds (1976) has compiled a theory which summarizes much of the development to the present time and it forms the main source below. It is evident, however, that McReynolds' theorizing relies heavily on former cognitive theories, and it therefore presents no really new points. Rather, it is a fairly heuristic attempt to integrate different views and is, first and foremost, a theory of anxiety.

McReynolds' theory rests on the assumption that sensory imput can be compared with a categorization system consisting of past experiences. It is obvious that here, for instance, McReynolds comes quite close to Piaget. McReynolds' concept also resembles that of scheme, used by Neisser (1976). Data which are congruent with past experiences are assimilated, incongruent data are not. The degree to which the experiences are assimilated varies. Readily assimilable data are, according to McReynolds, for instance, a man's perception of his wife behaving in a familiar manner in welcoming him home. An experience which is difficult to assimilate is, for instance, the information that one's spouse has died. Most life events are of the latter type in that they represent new and sudden aspects which are often incongruent with former experiences and therefore difficult to assimilate.

Perhaps the most central concept in McReynolds' theory is the cognitive backlog. It refers to the part of the categorization system where unassimilated material is stored. McReynolds uses the letter U to design the ratio of unassimilated data, or percepts, as he calls them, to all data. This concept is quite close to Bruner, Goodnow and Austin's (1956) concept of cognitive confusion and Berlyne's (1965) conceptual conflict. It should, however, be observed that Berlyne (1965, 1963) defines conflict more on the basis of responses than stimuli.

The incongruences in the cognitive backlog may, according to McReynolds, be of three kinds: incongruences of the past, the present, and the future. His definition of incongruences of the past corresponds quite well to the occurrence of life events. Incongruences of the past occur when the individual's "expectation is not confirmed, or a perceptual set is contradicted, that is, when something expected to happen does not happen, or something that one did not expect to happen, happened" (p. 53). Berlyne (1963) lists major types of conceptual conflict: doubt, perplexity, contradiction, conceptual incongruity, confusion, and irrelevance. Most of these would certainly be reactions to those situations mentioned by McReynolds.

Another central feature in connection with life events is McReynolds' treatment of how a backlog of unassimilated percepts may occur. First, it may be the consequence of "continued occurrence, or recurrence of incongruent percepts which the person is unable to resolve, so that they accumulated over time" (p. 59). This definition very well fits the concept of abundant change. Secondly, the cognitive backlog may be a consequence of too rapid an occurrence of percepts, which would be resolved at a more normal pace. This also applies to abundant change in many cases. Here, McReynolds refers especially to young children who have not yet developed a categorization system with enough assimilated data with which incoming data may be compared. For children, too high a rate of novelty and too many changes are, therefore, especially harmful.

The third instance for the accumulation of the cognitive backlog is a deassimilation of previously resolved perceptual material. This case also applies quite well to life changes, for instance in the case of a sudden revelation concerning someone close, or the loss of a job considered to be permanent.

McReynolds' theory ultimately aims at an explanation of anxiety. He postulates that the main reason for anxiety is a high cognitive backlog. He presents an impressive number of studies in favour of this hypothesis. Among this evidence he mentions the studies by Bowlby (1969) on separations and Parkes (1972) on bereavement. He also lists some other life events, like losing a job, or moving to a different country, which may lead to the destabilization of existent categories

and thus to anxiety. He states (p. 63) that "taken in its entirety, the evidence I have presented strongly support the hypothesis that the effects of unassimilable, or difficult-to-assimilate percepts tend to accumulate and to increase the level of anxiety."

It should perhaps be added that McReynolds calls the above form of anxiety primary anxiety. This form of anxiety arises "through the operation of processes in an organism which have the inherent power of causing anxiety... " (p. 38). Secondary anxiety is, again, conditioned anxiety, which occurs as a reaction to formerly neutral stimuli.

In connection with life events the concept of secondary anxiety seems especially useful when applied to the recurrence of the same events, e.g. mother leaving for work, or a sick child being recurrently hospitalized. In such cases, the child may act with anxiety to some sign having been connected with the event. The mere sight of the mother dressing for work may cause anxiety, or very mild symptoms of the illness may lead to distress. In such cases, the threat of a future event is enough to cause anxiety.

McReynolds' theory is not specially designed to account for abundant change and the material he presents in favour of the theory more concerns those changes termed single life changes. He only briefly mentions two life event studies (Holmes & Masuda 1972 and Wyler, Masuda & Holmes 1971) showing that anxiety is a consequence of abundant change. It is, however, a fact that this relationship has been confirmed in some other studies as well. For adults, Lauer (1973, 1974) and Lauer & Thomas (1976) found that a high life change score was related to a high degree of anxiety in an American but not in an English population. In the latter case, a small sample may have influenced the results, as the authors observe. There are other studies in adult populations which do not explicitly mention anxiety as the dependent variable but speak of psychological disturbances instead. Several studies (e.g. Dohrenwend 1973, Mueller et al. 1977) have used Langner's 22-item Mental Health Index (Langner 1962). In these studies, the correlation between mental health and life change was .35-.40. Supporting evidence is also found in studies by Andrews et al. (1978) and Vaillant (1978), as well as in Justice, McBee and Allen (1977). Myers et al.'s (1972) longitudinal study showed that psychological impairment was higher the more the life changes experienced by the subject during the preceding year.

Life event studies in child populations are very rare. One of the few studies, that by Gersten et al. (1977), included anxiety. The study showed that anxiety was connected with the total life change score, whereas negativity of change was connected with almost all the other dependent measures, e.g. conflicts with parents.

McReynolds does not treat studies which show a connection between life changes and dependent variables other than anxiety. It is, however, evident that anxiety is only one of the consequences of change. For adults, especially, there are several studies showing a relation with different indices of illness. Coronary hearth disease has been found to be one of the consequences of change (e.g. Rahe et al. 1974, Theorell & Rahe 1974). Depression is also related to life events in several studies (e.g. Brown & Birley 1968, Paykel 1973,1974).

### 1.2.3. Stress as a mediating concept

Is it, then, possible to predict whether the consequence of abundant change will be anxiety or some other form of behaviour? The answer may lie in the fact that McReynolds theory tells the truth, but not the whole truth. A glance at stress theory may help to solve this problem.

Selye (1950) stated early that a stressor is that which elicits stress and "any change affecting a living organism is a stressor, as it elicits some efforts to resist and hence at least mild manifestations of A-R (alarm reactions)" (p. 27). Levi (1971) has elaborated the concept of stressor and states that it constitutes such a change (qualitative or quantitative) in the external or internal environment that it requires more adjustment and defence reactions than usual on the part of the organism for life and/or homeostasis to prevail. The terms alarm reaction, adjustment and defence reactions cover a broad range of behaviour, including many manifestations which McReynolds connects with anxiety.

The stress explanation has been extended to the concept of abundant change as well. McGrath (1970) refers to the fact that most change studies mention the U-model of stress which is based on the writings of Selye. McGrath depicts the relationship by saying that "stress

comes from too much of a good or not enough of it." According to this view, stress is the result of an abnormal stimulus load and is the consequence of the fact that some stimulus properties, e.g. intensity, complexity, information, uncertainty, etc., lie outside this area. It is precisely this aspect which is covered by McReynolds. In his view, the discrepancy between changes in the environment and the individual's categorization system is the crucial factor. McReynolds also postulates that the organism tends to function so that the number of cognitive innovations, as he calls them, are at an optimum.

It seems that stress theory with its physiological emphasis has been able to focus on a central mediating factor which has been almost totally neglected in McReynolds' theorizing, namely the role of catecholamines in the regulation of behaviour. Frankenhaeuser (1975), for instance, refers to her own study, where it was found that the excretion of epinephrine was higher in a condition where the subject had a low degree of control over the situation. She states (p. 214) that "conditions characterized by novelty, anticipation, unpredictability, and change usually produce a rise in the epinephrine output." It is interesting to note that life change has been related to adrenaline output as well (Theorell and Rahe 1974). If the organism reacts to every change with sympatoadrenomedullary activity, which seems to be the case (c.f. Fröberg et al. (1971), this prolonged activity leads to malfunctions in the organism (Levi 1974). Bunney et al.'s (1965) study showed an elevated steroid excretion on days of personal crisis. Thus, other central systems, i.e. the hypophyseoadrenocortical system, and probably the thyroid gland as well, also seem to be involved (Kagan & Levi 1974) in reactions to single, stressful events and might result in the same accumulation of effects.

The crucial thing is that the excretion of catecholamines is not restricted solely to anxiety states but has been found to be related to different dependent variables. Hamburg et al. (1975) refer to studies where activation of the catecholamines by amphetamine causes aggression, for instance. Depression is also related to the catecholamine output. Hamburg et al. state that (p. 252) "the same person may at different times respond angrily to stress on one occasion, depressively on another." Groen (1975) also stresses the fact that some individuals react with aggression, others with depression, or anxiety, to the same event.

According to him, it depends on the individual's previous experience as to which form of coping behaviour he chooses.

Groen treats extensively the physiological concomitants of anxiety, e.g. restlessness, tremors, etc., and asks an important question: are these symptoms typical only for anxiety, or do they also occur in other emotional states? Here, probably, is at least a partial answer to the seeming discrepancy between McReynolds' theory and stress theory. What McReynolds has called anxiety is often a different manifestation of the alarm reaction and defence reactions of the adjusting organism or, more generally, emotions.

### 1.2.4. Factors modifying the impact of change

#### 1.2.4.1. A model of life event mediation

It is obvious that there are cases in which a life event at least does not lead to negative effects on the child. On the contrary, the child, as well as the rest of the family, can endure even severe changes quite well.

It is only during the last years that there has been an increased interest in factors which modify the relationship between life change and various dependent variables. Coping has been mostly used as the intervening variable between a negative stimulus situation and negative consequences. The stimulus situation has been given different names. It has been called transition (Lowenthal et al. 1976, Parkes 1971), life strain (Pearlin & Schooler 1978), real life crises (Spivack, Platt & Shure 1976), or life event (Andrews et al. 1978, Garrity et al. 1977). The dependent variable has varied from illness to psychological impairment, but mostly it has been referred to as stress.

Coping is a very popular term and perhaps its content is not quite clear for this reason. According to White (1974) it refers to mastery, adaptation and defence and Lazarus (1966) says that "when we use the term 'coping' we are referring to strategies of dealing with threat" (p. 151). These definitions fit McReynolds' theory above quite well. Thus, the individual tries to cope with the incongruences brought about by life events which have happened.

There have been several attempts to integrate into a model factors which seem central in connection with life events. There has been an increasing tendency in these models to stress information processing in the individual, or, more specifically, cognitive factors in coping (e.g. Hamilton & Warburton 1979, Folkman, Schaefer & Lazarus 1979). While earlier models were often one directional, later ones have added a feed-back loop from consequences to factors generating life events. A recent addition to models of life events and their consequences is considering them in a life-span perspective, as Hultsch and Plemons (1979) have done. Their model, however, contains no feed-back from the consequences of life events. It would seem that this is a necessary requirement when the target of study is the life-span of a single individual. One life event may be the cause of another; typically, events are chained.

The author has formerly (Hurme 1978) presented a model of life event mediation which fills the above requirements. Although not constructed for a life-span analysis, it is also applicable to such an approach. The model is presented in Figure 1.

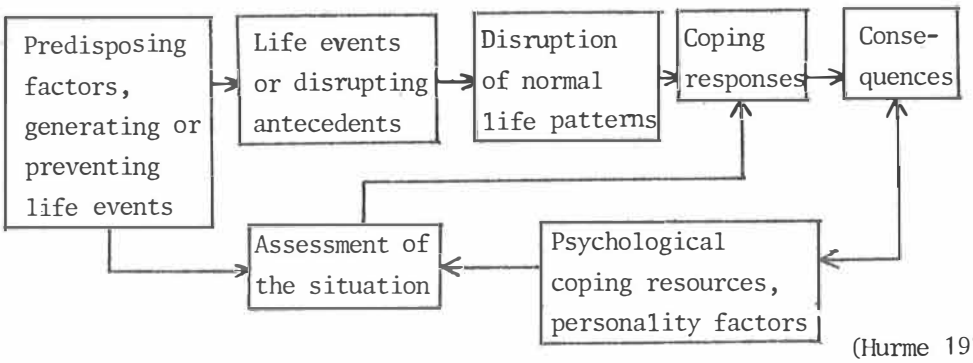



Figure 1. A model of life event mediation

On the left in Figure 1 is an element named 'predisposing factors, generating or preventing life events'. These have never been systematically analyzed although they have been alluded to in the literature (Rabkin & Struening 1976). Predisposing factors are factors, either

acquired or inherited, which increase the probability that an individual is involved with life events or act to decrease this probability. These predisposing factors change in nature and are under the influence of the consequence of events. Learned helplessness is an example of a factor which may generate life events but is, at the same time, dependent on the consequence of events. These predisposing factors also influence another central element, i.e. the assessment of the situation.

Lazarus (1966) refers to an assessment of the situation as an appraisal of threat. Assessment or appraisal depends on the previous experience of similar situations and is also a function of the psychological resources of the individual.

In adapting the concept of coping to life events, it seems feasible and justified to differentiate the psychological coping resources and the specific coping responses in line with Pearlin & Schooler (1978). In their view, "the psychological resources are personality characteristics that people draw upon to help them withstand threats posed by events and objects in their environment" (p. 5). They include, for instance, a belief in mastery rather than chance. The specific coping responses are "the behaviour, cognitions and perceptions in which people engage when actually contending their life-problems" (p. 5).

The psychological coping resources are factors which may act so as to either generate or prevent life events. Thus, they often act before life events occur, but they also have great significance in the reaction to life events. Coping responses, again, occur after the life event has taken place.

It should, perhaps, be added that the model in Figure 1 examines factors modifying life events from an individual perspective only. The model may be enlarged by adding social factors. They may be the cause of life events, as in the case of unemployment. On the other hand, social support is one of the most powerful modifying factors of the impact of life events.

1.2.4.2. Self-control as a mediating factor

Groen's (1975) statement that it depends on the individual's former experience which form of coping behaviour he chooses was mentioned above. Pulkkinen (Pitkänen 1969) has studied children's attempts to cope with thwarting situations and her approach partly fills the gap in the previous discussion concerning the differentiation of reactions. Although she studies interindividual and social situations more, her descriptive system may also be applied to life events. Like the stress theories referred to above, Pulkkinen states that "the primary effect of a thwarting situation on an organism is activating, which is revealed both as emotional and behavioural reactions" (p. 103). She then continues that through conditioning, the individual learns either approach or avoidance in such situations, and accordingly is active and behaves aggressively, or passively withdraws by showing anxiety.

In human beings, however, cognitive processes control behaviour and neutralize emotional aspects. Therefore, the dimension of control of behaviour, or self-control, is central. Children vary according to the degree of self-control they have internalized. Pulkkinen's system thus consists of two dimensions: activity-passivity and a weak v. strong control of behaviour. These two dimensions combine to form different behavioural patterns observable in thwarting situations. Figure 2 depicts Pulkkinen's model.

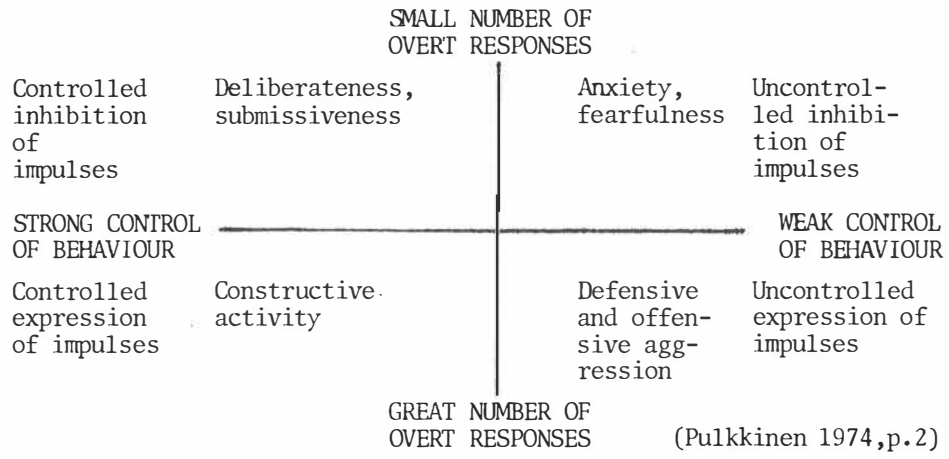



Figure 2. Pulkkinen's two-dimensional model of child behaviour

From Figure 2 it can be seen that, as a result of a combination of the two dimensions, four groups are formed. The two groups to the right are characterized by weak control. The group with an uncontrolled expression of impulses shows a lack of deliberation and acts according to its own impulses in a egocentric manner as well as disregarding the whole situation (Pulkkinen 1977). This group is called aggressive.

Weak self-control may also be combined with withdrawal. This is the case in the group with an uncontrolled inhibition of impulses. The group is characterized by avoidance behaviour and the subject has "no response habits enabling him to eliminate the thwart nonaggressively" (Pitkänen 1969, p. 106). Pulkkinen (1977) also states that when such emotions as fear and anxiety dominate, self-control is weak. This group is called anxious.

The alternative to weak self-control may be of two types. A controlled expression of impulses together with socially active behaviour implies taking other people into account and controlling impulses and emotions. This represents socially acceptable activity (Pitkänen 1969). If strong self-control is combined with passivity and withdrawal, the "individual tends to block awareness of his emotional state by a cognitive appraisal of the situation" (Pitkänen 1969, p. 106). This group is characterized by deliberateness and submissiveness.

During the course of life the individual encounters a differing number of thwarting situations, including life events. According to Pulkkinen (Pitkänen 1973), the reinforcement history of habit formation leads to quite a high persistence of behaviour. This would imply that if the individual encounters many events, his reaction to them should be reinforced. If, as McReynolds says, anxiety is the consequence of these encounters, or more generally, an activation of adrenal activity with either anxiety or aggression as the visible form, these tendencies should be reinforced in connection with abundant change and it should therefore be connected with weak self-control.

The study Aggression risk groups (1975), a follow-up of Pitkänen (1969), indeed shows that children with weak self-control have experienced more changes that children with strong self-control. In the weak self-control group, 17.6 % of the parents had divorced, in the strong self-control group 8.4 %. In the former group, 22.5 % of the mothers

had shift work against 6.5 % in the latter. The corresponding numbers for the fathers were 20.5 % and 13.9 %. There were fewer changes of caretakers in the group with strong self-control, as well as fewer different day-care arrangements. In addition, the number of residences was lower in this group. There were 23.4 % with five dwellings or more in the weak self-control group against 9.8 % in the group with strong self-control.

The same data were further analyzed in Hurme (1976). The results showed that it was possible to depict the background variables of self-control by using two main dimensions: parental guidance and instability of the environment. The two groups, as a whole, differed on the instability dimensions, the children with weak self-control having experienced more instability. Thus, it may by assumed that a continuous exposure to thwarting situations in the form of a series of life events may lead to weak control of behaviour, i.e. anxiety or aggression. In fact, weak control of behaviour, or weak self-control, may be a better name for the form of behaviour termed anxiety by McReynolds.

### 1.2.4.3. Parental behaviour as modifying the impact of change

The child has almost no possibilities of influencing the events which he experiences. He does not make decisions concerning a divorce of the parents or a change of maid, for instance. Therefore, the parents' role is central.

Parental child rearing behaviour is one form of social support for the child. In order to be able to support the child in crisis situations, the parents should possess coping resources and be able to bring about coping responses which facilitate the adjustment of the child. The parents' task is to act in such a fashion that the incongruence between the child's former experiences and his present environment is as small as possible, and, in the case of unavoidable events, to act so as to diminish the distress of the child. Thus, the parents should structure the child's world and strive towards congruent behaviour and an optium numbers of rules, as well as explanations of both their behaviour and external events to the child.

Pulkkinen (1977) has enlarged her study to cover factors which differentiate children with strong self-control from those with weak self-control. One of the main factors typical of children with strong self-control is the parents' child rearing style and the whole atmosphere of the home, characterized by future oriented, child centered behaviour. The family atmosphere is characterized by warmth and harmony, but at the same time with quite a high degree of control of the child's activities. The parents are genuinely interested in the child and therefore their behaviour is not egoistic. It is precisely this type of behaviour which should act as a buffer against the life events which inevitably take place and, at the same time, prevent excessive events.

## 1.3. Objectives of the study

Questions pertaining to the impact of life changes were treated above. This is, however, only one aspect of life change. This study also aims at covering other aspects. The study consists of four substudies, each pertaining to one central area of life change.

The first question is what changes Finnish children encounter. For some changes, statistics provide data. They tell, for instance, how many children there are in families with divorced parents. Epidemiological studies are concerned with the incidence of illness in a child population, for instance, but in general surprisingly little is known about the frequency of such everyday events as a change of school or a change of day care arrangements, especially when it comes to the age of the child at the moment of the change.

The occurrence of single life events in a Finnish child population is treated in Study B. The study is the first of its kind in Finland and besides some well-known events, like a divorce, it gives data on the occurrence of some of the less studied changes, e.g. a change of day care arrangements.

In studying life events, many seemingly trivial events have been neglected. It is only in connection with attempts to study a second very central aspect of life changes that sufficient attention has been paid to these small changes. This second problem concerns the question of how serious different events are.

The research tradition introduced by Holmes and Rahe in 1967, called life event research or life change research, offers a method of assessing the readjustment required by different life events. Holmes and Rahe compiled a list with approximately 30 events, including many small changes, and asked expert judges to rate the readjustment required by each event as compared with an anchor with a value of 500. They called the obtained values Life Change Units (LCU's). Later, the procedure has been repeated or modified in several studies (for a review, see Hurme 1978a), with different lists of events (e.g. Dohrenwend 1978) or for different groups of subjects, including children (Coddington, 1972a, Monaghan et al. 1979). Until now, life event research is the only research tradition which offers a solution to the problem of estimating the degree of severity of events.

The amount of readjustment required of Finnish children at different ages as rated by experts in the field of child rearing is analyzed in Study A. These ratings serve as weights in later parts of the study, but, at the same time, they are important in themselves, as they fill a gap in knowledge about the environment of Finnish children. In addition to an interest in these weights, or life change units, studying the procedure of rating the events is also interesting, as this is the first Finnish study of this kind. The same reason has led to the inclusion of a comparison with foreign studies.

A third central aspect in trying to give a comprehensive picture of children's life changes concerns the question of how much instability the child encounters in his environment. Holmes' and Rahe's studies ultimately aimed at answering this question for adults. Their idea was that change as such, be it positive or negative, is detrimental for the individual. Therefore, the above ratings concerned the amount of readjustment required by each event, and not their negativity. Holmes and Rahe asked a group of people what events they had experienced during the last year. By summing the readjustment ratings of each event for each individual they obtained a measure of abundant change, showing how much readjustment each individual had gone through. A second way to measure the instability of the environment is simply to count the number of life events a person has experienced. Both procedures have later been carried out for children (Coddington 1972b, Gersten et al. 1974). The occurrence of abundant change is studied in Study B. It

concerns the distribution of a weighted life change score as well as the frequency of life events, both over age groups and in different age groups. The relation to social class, sex, and age of the mother is also studied.

A fourth aspect of life change, the impact of change on the child was treated above in section 1.2. This aspect is studied in Study C. It covers the impact of both single events and abundant change. Whereas the data of Study A and B were gathered by using questionnaires, the impact of the events required a far more considerate method. Therefore, taped, semistructured interviews with the mothers were used. This allowed a more qualitative reporting of the results, including excerpts from the interviews.

Study C also concerns the relationship between abundant change and child behaviour. These data are based on interviews with the mothers and they are completed with rating scales of the child's behaviour.

The fifth, and last, aspect to be studied concerns factors which modify the relationship between life change and its consequences. These are analyzed in Study D. It concentrates on such maternal features as planfulness, initiative, or a lack of anomia, as well as supporting child rearing, for instance, which might constitute social support for the child and help him to cope with the changes. The material is based on in-depth interviews with the mothers, and these interviews were also completed with rating scales of the mother's and the child's behaviour.

# 2. STUDY A. LIFE EVENT SEVERITY RATINGS

## 2.1. Introduction

It is quite common to say that a divorce is detrimental for the child or that a change of residence does not do very much harm. Such statements are based on common sense or on clinical experience and there is a general consensus concerning many of them. More detailed data concerning the severity of events are sometimes needed, however. This is the case in trying to estimate the total amount of readjustment a child has to experience. Moreover, in comparing the severity of different events, data are needed which are obtained by using the same method for every event.

The method introduced by Holmes and Rahe (1967) offers a means for rating the severity of life events. This assessment of the readjustment required by each event in a life events list is essentially a scaling procedure in line with other attempts to form 'ratio scales of opinions and attitudes' (Stevens 1966).

The usual procedure is to ask a group of judges to rate the amount of readjustment required by each event as compared with an anchor, usually marriage for adults and the birth of a sibling for children. In most cases, the anchor has been given the value 500. The geometric mean of the ratings is usually computed instead of the arithmetic mean in order to minimize the influence of extreme values. The weights are mostly presented as divided by 10.

The use of an anchor with the value 500 is, of course, not a canon which cannot be changed. It is quite possible that the weights depend on which event is the anchor as well as on its value. For instance, Monaghan et al. (1979) published a study on life event ratings for children. They used a maximum value of 100 to eliminate extreme values. As Coddington's (1972a) study was the only one in which readjustment ratings for children had been used at the moment of completing this study, it was decided to use his procedure. This involved the use of the birth of a sibling as the anchor, with a value of 500. - The procedure is described in detail below.

Coddington (1972a) was the first to apply the rating method of Holmes and Rahe to children's life events. He asked 131 teachers, 25 pediatricians and 87 mental health workers to rate the readjustment required by approximately 35 events in the preschool, elementary school, junior high school and senior high school groups. The results showed that in the two younger groups the death of a parent was rated as the most serious change (LCU or life change units 89 and 91, respectively) and the divorce of parents (LCU 78 and 84) the next serious change. In the junior high school group the unwed pregnancy of the child was the most serious change (LCU 95), while the corresponding change in the senior high school group was getting married (LCU 101). The lowest value (LCU 21) was given to 'change in parents' financial status' in the preschool group.

In Coddington's study, there were no significant differences between the ratings of the different professional groups. The rank order correlations between the groups ranged from .91 to .96.

Monaghan et al. (1979) compared their results with those of Coddington and found quite a high correspondence. There was a Spearman rank order correlation of .93 between British and American ratings. The agreement between different professional groups was also high.

## 2.2. Problems

The aim of Study A is two-fold. Firstly, it gives an answer to the question how serious different life events are, or more precisely, how serious Child Guidance workers consider these changes. One central question in connection with this problem is whether or not there are differences between age groups in the severity of the events and how these possible differences may be explained.

The second task of Study A is to assess problems connected with the rating procedure. This implies giving an answer to the question of how the judges rate the severity of the events. This allows further development of the method. One part of this assessment consists of a comparison of the results of this study and former results in the area. This comparison gives data concerning the validity of the results and, at the same time, it shows whether the ratings reflect general beliefs concerning the child or culture-bound features.

A second aspect of the rating procedure is on what basis the ratings are made. Do the judges rate each change separately and on specific grounds or do they use some more general criteria? This question concerns the dimensionality of the ratings. Stone and Neale (1978) call for factor analyses as well as discriminant analyses to solve this problem. Miller et al. (1974), as well as Ruch (1977), have made such attempts for adult ratings. Miller et al. factorized the ratings and found a four factor solution with 1) life space changes, e.g. changes in working hours, amount of leisure time, etc., 2) personal life style changes, e.g. personal achievements, personal habits, minor violations of the law, etc., 3) dissolution of relationship, e.g. being fired, marital separation, divorce, and 4) relationship termination, e.g. death of spouse, death of close family member, etc. Ruch (1977) performed a smallest space analysis for adult ratings. This method is the same as other multi-dimensional scaling methods, for instance INDSCAL (see Carroll & Wish 1974), in that it yields less concrete dimensions of life change than factor analysis. Thus, Ruch found three dimensions: 1) amount of change, 2) desirability and, 3) area of change. He concluded that life change is not a one-dimensional phenomenon and the results of Miller et al. confirm the view that ratings are made using a few more general dimensions. It can be hypothesized that this is also the case for children's changes.

## 2.3. Method

A life event rating scale containing the life events in Table 1 was formed. The scale allowed a replication of Coddington's (1972a) study. The events to be included in the list were chosen firstly on the basis of Coddington's list, secondly on the basis of a review of the literature on each separate event (see Section 4.3.4.) and thirdly on the basis of discussion with the personnel at the Child Guidance Clinic in Jyväskylä. In all, 30 events were included in the final list. The ratings were made for four age levels: 0-3, 4-6, 7-10, and 11-13 years.

To gather information about the validity of the ratings, it was decided to replicate Coddington's procedure as fully as possible. The following instructions show this procedure. The parts exactly identical with Coddington's instructions are underlined. A double underlining indicates that it was also underlined in Coddington's text.

Instructions of the life event rating task

" Please rate the significance of the life events in the list for the four age groups indicated. In addition, read through the following instructions:

a) It is possible to define adjustment (or more precisely, readjustment) as the degree of getting used to a certain life event and the time required for this procedure, independent of the desirability of this change. In other words, the birth of a sibling might be considered an interesting and exciting event or an unwanted event, but in either case in requires a certain amount of readjustment.

b) You are asked to rate a series of life events as to their relative degree of necessary readjustment for children at four different age groups. In scoring, use all your experience, both personal and workrelated. - Some children accommodate to change more easily than others; some children adjust with particular ease or difficulty to only certain events. Therefore, strive to give your opinion of the degree of average readjustment necessary for each event.

c) The mechanics of rating are these: event 1, the birth of a brother or sister, has been given an arbitrary value of 500. As you complete each of the remaining events, think to yourself, "will this event require more or less readjustment on the part of a child than the birth of a brother or sister?" If you decide that the readjustment is more intense or longer, then use a proportionately larger number and place it in the blank directly opposite the event. If it requires less readjustment or less time, give it a proportionately smaller value. If the event requires an equal amount of

readjustment, give it the value 500. - You may use any value as long as it is proportionate to 500.

d) Do your ratings for one age group at the time. First rate all the events for children 0-3 years of age and put the values in the first column. Then rate the same events for 4 to 6 -year-old children and put the values in the second column and so on. - Because some events are appropriate only at some ages, they have been marked with a cross in the other columns."

Reliability of the ratings

To obtain a picture of the reliability of the ratings, two judges were asked to rate the same events by using the same instructions, but with a two year interval in between. The mean of these correlations was .85. Thus, the re-test reliability was quite good, indicating that the specialists really have grounded opinions concerning the impact of life events. A reliability estimate based on the communalities of the rating variables was also quite high at .81.

## 2.4. Subjects

The subjects in Study A were psychologists (N=46) and social workers (N=31) from Finnish child guidance clinics. A life events scale was sent to all clinics in the country with a request to distribute it to the personnel.

There were 71 child guidance clinics in the country at the moment of the study. All but three of them responded to the questionnaire. As it was intended for psychologists and/or social workers, the estimated minimum number of potential respondents was 71 psychologists and 71 social workers. Thus, at least about 50 % of these answered the questionnaire.

The large number of respondents makes the sample fairly well representative of the country as a whole.

## 2.5. Results

### 2.5.1. Life change units for children's life events

The amount of readjustment required by each event is usually expressed in life change units (LCU's). These are mostly geometric means of the ratings divided by 10.

Table 1 summarizes the geometric means of the ratings at each age level and also presents the arithmetic mean of the geometric means over the age groups for each event. The geometric mean was chosen to allow comparison with Coddington's results. An advantage of the geometric mean is that it discards extreme values.

Table 1. Geometric means (LCU's) of life event ratings by child guidance specialists at four age levels

| | Life event | Ratings for each age group (geometric means divided by 10) Age group 0-3 | 4-6 | 7-10 | 11-13 | Total |
|---|---|---|---|---|---|---|
| 1 | Birth of brother or sister | 50 | 50 | 50 | 50 | 50 |
| 2 | Mother's serious illness or injury | 78 | 83 | 81 | 78 | 80 |
| 3 | Unemployment of parent | 21 | 29 | 40 | 48 | 34 |
| 4 | Father's serious illness or injury | 55 | 68 | 74 | 77 | 69 |
| 5 | Death of mother | 104 | 106 | 107 | 107 | 106 |
| 6 | Divorce of parents | 67 | 80 | 81 | 79 | 77 |
| 7 | Parent in prison for more than 1 year | 56 | 64 | 70 | 74 | 66 |
| 8 | Child in hospital for more than 1 week | 52 | 44 | 35 | 27 | 39 |
| 9 | Serious illness or injury of child | 66 | 75 | 81 | 88 | 77 |
| 10 | Third adult moves into family | 21 | 31 | 32 | 37 | 30 |
| 11 | Strong decrease in financial status | 19 | 28 | 40 | 52 | 39 |

(continues)

Table1. (continued)

| | Life event | Ratings for each age group (geometric means divided by 10) Age group 0-3 | 4-6 | 7-10 | 11-13 | Total |
|---|---|---|---|---|---|---|
| 12 | Death of father | 81 | 93 | 100 | 103 | 94 |
| 13 | Brother or sister leaving home | 21 | 31 | 34 | 35 | 30 |
| 14 | New marriage of mother | 54 | 66 | 70 | 75 | 67 |
| 15 | New marriage of father | 48 | 61 | 64 | 68 | 60 |
| 16 | Change of community | 19 | 39 | 52 | 57 | 42 |
| 17 | Adoption | 59 | 71 | 80 | 85 | 74 |
| 18 | Marital separation of parents | 59 | 72 | 76 | 76 | 71 |
| 19 | Death of brother or sister | 55 | 73 | 83 | 88 | 75 |
| 20 | Hospitalization of father (over 1 week) | 25 | 34 | 33 | 26 | 29 |
| 21 | Mother starting work | 53 | 47 | 30 | 17 | 37 |
| 22 | Death of grandparent | 20 | 36 | 41 | 39 | 34 |
| 23 | Death of close friend | 17 | 40 | 57 | 68 | 46 |
| 24 | Change of residence in same community | 13 | 26 | 31 | 27 | 24 |
| 25 | Hospitalization of mother (more than 1 week) | 49 | 45 | 36 | 28 | 40 |
| 26 | Serious illness requiring hospitalization of brother or sister | 28 | 39 | 44 | 44 | 39 |
| 27 | Starting nursery school or kindergarten | 49 | 39 | - | - | 44 |
| 28 | Change of nursery school or kindergarten | 37 | 33 | - | - | 35 |
| 29 | Change of maid or day-care caretaker | 37 | 33 | 22 | 15 | 27 |
| 30 | Starting school | - | - | 47 | - | 47 |
| 31 | Change of school | - | - | 44 | 43 | 44 |
| | Mean | 43.6 | 52.9 | 55.3 | 57.5 | 52.3 |

Figure 3 presents the life events in the order of seriousness in the total group.

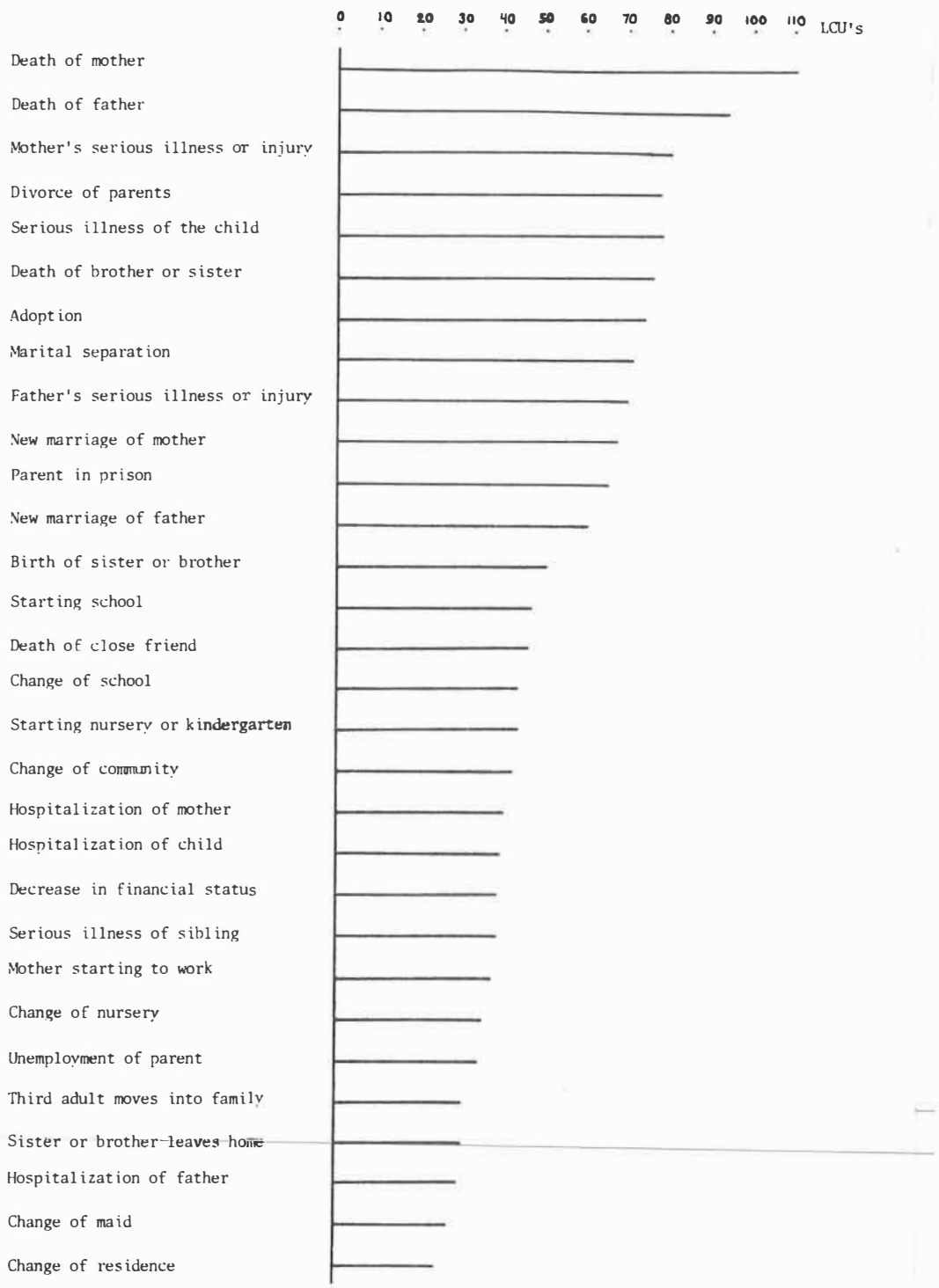



Figure 3. Life events in order of seriousness over age groups

In studying Table 1 and Figure 3 for results over the age groups it can be seen that death of the mother was considered the most serious change. The death of the father came second, then a serious illness of the mother. Divorce is also considered quite serious, as is serious illness or injury of the child. Characteristic of the most serious changes was that they concern individuals in the nuclear family. A change of residence was considered the least serious change. Small changes were also the change of maid or day-care caretaker, a brother or sister leaving home, a third adult moving into the family and the death of grandparents. Other relatively small changes were a change of nursery school or kindergarten, and the mother starting work.

### 2.5.2. Factor structure of the ratings

To assess the problem whether or not life event ratings for children are one-dimensional or whether several criteria for the ratings have been used, the arithmetic means of the geometric means over the age groups were factorized. An inspection of different varimax solutions shows that the strongest factor in a two factor solution is one of interpersonal changes, while the second factor concerns the living situation of the family. In a three factor solution, a factor with high loadings occurs for variables concerning the economic situation of the family. The next factor to occur is a factor of hospitalization.

A five factor solution was chosen as the best one for final inspection, although the rise in variance explained slows down only after the sixth factor and the seventh factor is the first one with a Eigenvalue below 1. The sixth factor was, however, not clear and some variables had high loadings on both this and the first factor. On the other hand, in the five factor solution, most variables had high loadings on one factor only. The chosen five factor solution explained 65.3 per cent of the total variance. The entire solution is presented in Appendix 1.

As the loadings were quite high, only variables with loadings higher than .60 are reported. The variables with loadings between .40 and .60 fit the description of each factor quite well, however. The

communalities and the geometric mean of the ratings as well as the arithmetic mean of these values are also indicated.

Factor I: Serious changes in the nuclear family

| Event number | | Loading | $h^2$ | Geometric mean of the ratings |
|---|---|---|---|---|
| 5 | Death of mother | .90 | .82 | 106 |
| 12 | Death of father | .88 | .84 | 94 |
| 6 | Divorce of parents | .87 | .77 | 77 |
| 2 | Mother's serious illness or injury | .85 | .77 | 80 |
| 4 | Father's serious illness or injury | .85 | .81 | 69 |
| 18 | Marital separation of parents | .84 | .80 | 71 |
| 9 | Serious illness or injury of child | .80 | .71 | 77 |
| 19 | Death of brother or sister | .80 | .80 | 75 |
| 7 | Parent in prison for more than 1 year | .75 | .69 | 66 |
| 14 | New marriage of mother | .72 | .74 | 67 |
| 15 | New marriage of father | .71 | .69 | 60 |
| | | | Mean | 76.5 |

The common denominator of these changes is that they all happen to members of the nuclear family. As compared with changes with high loadings on the other factors, these are serious, but it should be observed that there is quite a large variation between the ratings in the changes for this factor. In the changes mentioned above, the range is from 60 to 106. On the basis of these facts, this factor was called Serious changes in the nuclear family. It accounted for 42 % of the variance explained by the factors. The estimated reliability of the above variables, based on the square root of the mean of the communalities, was .94.

Factor II: Child's direct changes

| Event number | | Loading | $h^2$ | Geometric mean of the ratings |
|---|---|---|---|---|
| 27 | Starting nursery school or kindergarten | .81 | .72 | 44 |
| 28 | Change of nursery school or kindergarten | .75 | .73 | 35 |
| 29 | Change of maid or day-care caretaker | .71 | .56 | 27 |
| 21 | Mother starting work | .69 | .52 | 37 |
| 31 | Change of school | .69 | .59 | 44 |
| | | | Mean | 37.4 |

A feature common to all these changes is that they are closely connected with the child. This factor was thus called Child's direct changes. The variables with high loadings on this factor have much lower seriousness ratings than the variables on factor I. The factor accounted for 22 % of the variance explained by the factors. The estimated reliability of a scale composed of the above variables was .79, the single reliability values ranging from .72 to .85.

Factor III: Changes in subsistence

| Event number | | Loading | $h^2$ | Geometric mean of the ratings |
|---|---|---|---|---|
| 11 | Strong decrease in financial status | .76 | .64 | 39 |
| 3 | Unemployment of parent | .73 | .67 | 34 |
| 10 | Third adult moves into family | .64 | .43 | 30 |
| 24 | Change of residence in same community | .60 | .63 | 24 |
| | | | Mean | 31.8 |

The above variables with high loadings on this factor are connected with the financial status of the family in general. This applies to a change of residence in the same community especially when the family gets a flat of its own, but moving to a new rented flat also usually means a higher rent. Thus, this factor can be named Changes in subsistence. It accounted for about 15 % of the variance explained by the factors. The estimated reliability ranged from .66 to .91, the mean being .79.

Factor IV: Hospitalizations

| Event number | | Loading | $h^2$ | Geometric mean of the ratings |
|---|---|---|---|---|
| 20 | Hospitalization of father | .83 | .82 | 29 |
| 25 | Hospitalization of mother | .80 | .82 | 40 |
| 8 | Hospitalization of child | .70 | .66 | 39 |
| 26 | Serious illness of brother or sister requiring hospitalization | .60 | .48 | 39 |
| | | | Mean | 36.8 |

This factor covers all hospitalization variables, but discards the variables measuring serious illness. Thus, it was called Hospitalizations. It accounted for 14 % of the variance explained by the factors and the estimated reliability ranged from .69 to .91, the mean being .83. It is interesting to note the occurrence of this factor as separated from the variables with high loadings on factor I, i.e. interpersonal changes. Hospitalization was rated as much less serious than these. One reason may be the fact that variables measuring serious illness were also included and hospitalization has been contrasted with these. On the other hand, as hospitalization in this study was rated as less serious than in the USA in a study by Heisel et al. (1973), the result may show a belief in our hospital system.

Factor V: Deaths outside the nuclear family

| Event number | | Loading | $h^2$ | Geometric mean of the ratings |
|---|---|---|---|---|
| 22 | Death of grandparent | .61 | .58 | 34 |
| 23 | Death of close friend | .61 | .74 | 46 |
| | | | Mean | 40.0 |

This factor has only two variables with high loadings. As they are independent of each other, however, the factor may be termed after them. It was called Deaths outside the nuclear family. The factor accounted for 7 % of the variance explained by the factors. The estimated reliability was .76 and .86, the mean thus being .81.

A study of the factors and the means of the geometric means especially pointed to the fact that seriousness is only one basis for making the ratings. It may be hypothesized that the ratings are made by first assessing serious interpersonal changes and then making distinctions among the less serious changes on the basis of their content. Thus, a factorization of these types of ratings do not show which events occur together in reality, but, rather, on what grounds the ratings are made.

### 2.5.3. Readjustment ratings for different age levels

A central problem in life event research is whether or not the events are to be considered as requiring an equal amount of readjustment at each age level. If the differences are great, it implies that weights have to be used separately for each age group, if they are small, one rating will suffice.

Table 2 contains data on readjustment ratings for each age level. It can be seen that the readjustment required by most events was considered as increasing with age. The most serious changes, i.e. death of mother, divorce, and serious illness of mother, were, however, regarded as equally serious at each age level. It is interesting to note that the changes which were considered less serious at upper age levels seem to agree with Bowlby's (1969,1977) theories. These

changes, i.e. mother starting to work, hospitalization of the child, hospitalization of the mother, and change of day-care caretaker, all reflect the separation of mother and child and, in addition, the dissolution of a close relationship.

Table 2 shows the arithmetic means of the readjustment ratings at the four age levels as well as the F-values for the one-way variance analyses testing the significance of the age group differences. It can be seen that most differences are highly significant.

Factor analyses were also made for each age level separately. The general picture is that the factor structure is much the same for all age groups. It is interesting to note, however, that the age levels 0-3 years and 4-6 years resemble each other, as do age levels 7-10 years and 11-13 years. This points to the possibility of combining the ratings of the respective groups and thus using only two age levels. This result is confirmed by the rank order correlations of the ratings at different age levels. These are presented in Table 3.

Table 3. Rank order correlations of life change ratings between different age groups

| Age group | | | | |
|---|---|---|---|---|
| 0-3 | - | | | |
| 4-6 | .92 | - | | |
| 7-10 | .73 | .87 | - | |
| 11-13 | .68 | .80 | .98 | - |
| | 0-3 | 4-6 | 7-10 | 11-13 |

As can be seen from Table 3, the closer the age levels, the higher the rank order correlation between the ratings.

Table 2. Arithmetic means and standard deviations of readjustment ratings at four age levels

| Event | 0-3 yrs | | 4-6 yrs | | 7-10 yrs | | 11-13 yrs | | p for |
|---|---|---|---|---|---|---|---|---|---|
| | X | Sd | X | Sd | X | Sd | X | Sd | F |
| Mother's serious illness | 83 | 27 | 85 | 29 | 85 | 31 | 83 | 34 | n.s. |
| Unemployment of parent | 27 | 19 | 35 | 19 | 45 | 20 | 53 | 21 | .001 |
| Father's serious illness | 62 | 24 | 72 | 28 | 78 | 29 | 82 | 32 | .001 |
| Death of mother | 110 | 44 | 111 | 41 | 112 | 43 | 115 | 49 | n.s. |
| Divorce of parents | 72 | 26 | 83 | 26 | 84 | 22 | 85 | 32 | .01 |
| Parent in prison | 61 | 27 | 67 | 25 | 74 | 29 | 78 | 31 | .001 |
| Child in hospital | 58 | 24 | 51 | 23 | 41 | 20 | 33 | 19 | .001 |
| Serious illness of child | 70 | 22 | 78 | 23 | 85 | 30 | 85 | 30 | .001 |
| Third adult moves into family | 28 | 12 | 36 | 16 | 37 | 15 | 43 | 17 | .001 |
| Strong decrease in financial status | 26 | 16 | 33 | 16 | 45 | 21 | 57 | 22 | .001 |
| Death of father | 85 | 33 | 99 | 39 | 106 | 43 | 110 | 50 | .001 |
| Brother or sister leaving home | 28 | 17 | 37 | 17 | 41 | 19 | 42 | 21 | .001 |
| New marriage of mother | 60 | 27 | 70 | 25 | 73 | 18 | 79 | 26 | .001 |
| New marriage of father | 55 | 27 | 65 | 26 | 68 | 21 | 73 | 29 | .001 |
| Change of community | 28 | 17 | 43 | 16 | 58 | 17 | 60 | 19 | .001 |
| Adoption | 68 | 29 | 77 | 29 | 85 | 20 | 90 | 33 | .001 |
| Marital separation of parents | 65 | 29 | 76 | 26 | 79 | 24 | 80 | 28 | .01 |
| Death of brother or sister | 59 | 23 | 76 | 26 | 88 | 32 | 93 | 39 | .001 |
| Hospitalization of father | 31 | 17 | 40 | 20 | 38 | 18 | 32 | 18 | .01 |
| Mother starting work | 56 | 19 | 50 | 16 | 35 | 18 | 25 | 14 | .001 |
| Death of grandparent | 29 | 18 | 40 | 18 | 44 | 19 | 44 | 20 | .001 |
| Death of close friend | 26 | 19 | 44 | 21 | 59 | 24 | 73 | 35 | .001 |
| Change of residence | 23 | 16 | 33 | 18 | 37 | 20 | 35 | 20 | .001 |
| Hospitalization of mother | 54 | 23 | 51 | 20 | 43 | 20 | 36 | 20 | .001 |
| Serious illness of brother or sister | 33 | 17 | 43 | 17 | 48 | 17 | 49 | 20 | .001 |
| Starting nursery school | 52 | 18 | 44 | 17 | - | - | - | - | - |
| Change of nursery school | 43 | 18 | 38 | 17 | - | - | - | - | - |
| Change of maid | 43 | 18 | 38 | 17 | 29 | 26 | 20 | 12 | .001 |
| Starting school | - | - | - | - | 54 | 26 | - | - | - |
| Change of school | - | - | - | - | 49 | 20 | 47 | 21 | - |

2.5.4. Comparison with other studies

As only one former study of life event weights for children existed at the time of collecting the material for this study, i.e. the study of Coddington (1972a), a comparison with his results was intended. As his article does not contain the standard deviations of the scores, a graphic comparison of the geometric means was made. It should be observed, however, that the wording was not exactly the same for all events, chiefly due to cultural differences. Some events in Coddington's list seemed too global, e.g. the death of a parent or serious illness requiring hospitalization of the child (or mother or father). These changes have been broken down into sub-categories, i.e. the death of father and death of mother. Thus, the comparison was somewhat arbitary for some events. Secondly, Coddington reports his results for the preschool level, elementary school level, junior high school level and senior high school level. The corresponding levels in the present study were 4-6 yrs, 7-10 yrs and 11-13 yrs. Thus, the 0-3 yrs groups of this study and the senior high group of Coddington were not included in the comparison.

Figure 4 shows these comparisons. An H in the figure points to the results of this study, C to the results of Coddington. An inspection of the graphs in Figure 4 shows that the general correspondence of the two studies was good. There are some changes, serious illness requiring hospitalization of brother or sister or death of a close friend, for which the ratings were almost identical. The most interesting events are those with identical wording but different ratings. The death of a brother or sister was rated far more seriously in the Finnish sample than in the American. This was also the case with adoption. The mother starting work was, again, considered far more serious in the USA, probably owing to the fact that it is not as common an event there as it is in Finland.

The degree of correspondence for the two studies was also assessed by computing the mean of the differences between the ratings in two subgroups: for events with identical wording and for events differing in wording. For the events with the same wording, the difference between the geometric means of the rating was, on average, 4.36 for each event. For events with different content (e.g. death of mother vs.

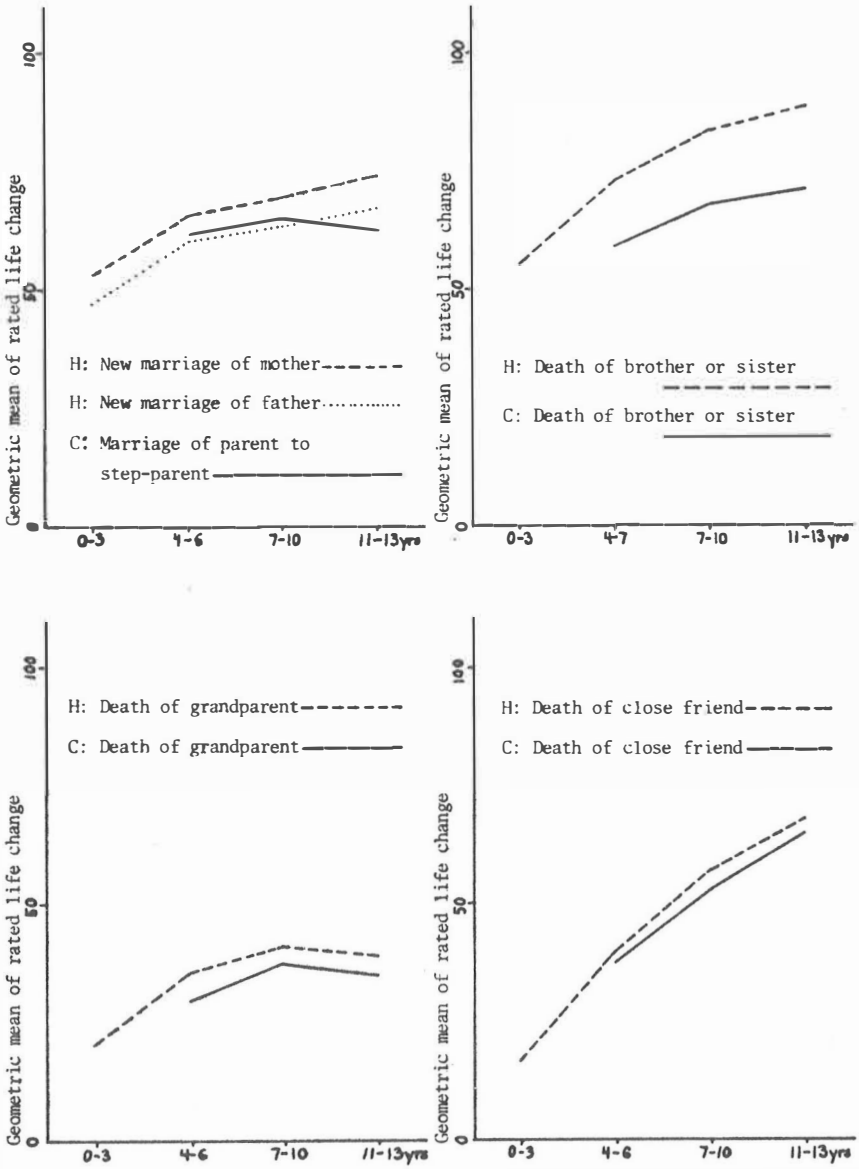



Figure 4. Comparison of life event severity ratings with those of Coddington (1972a)

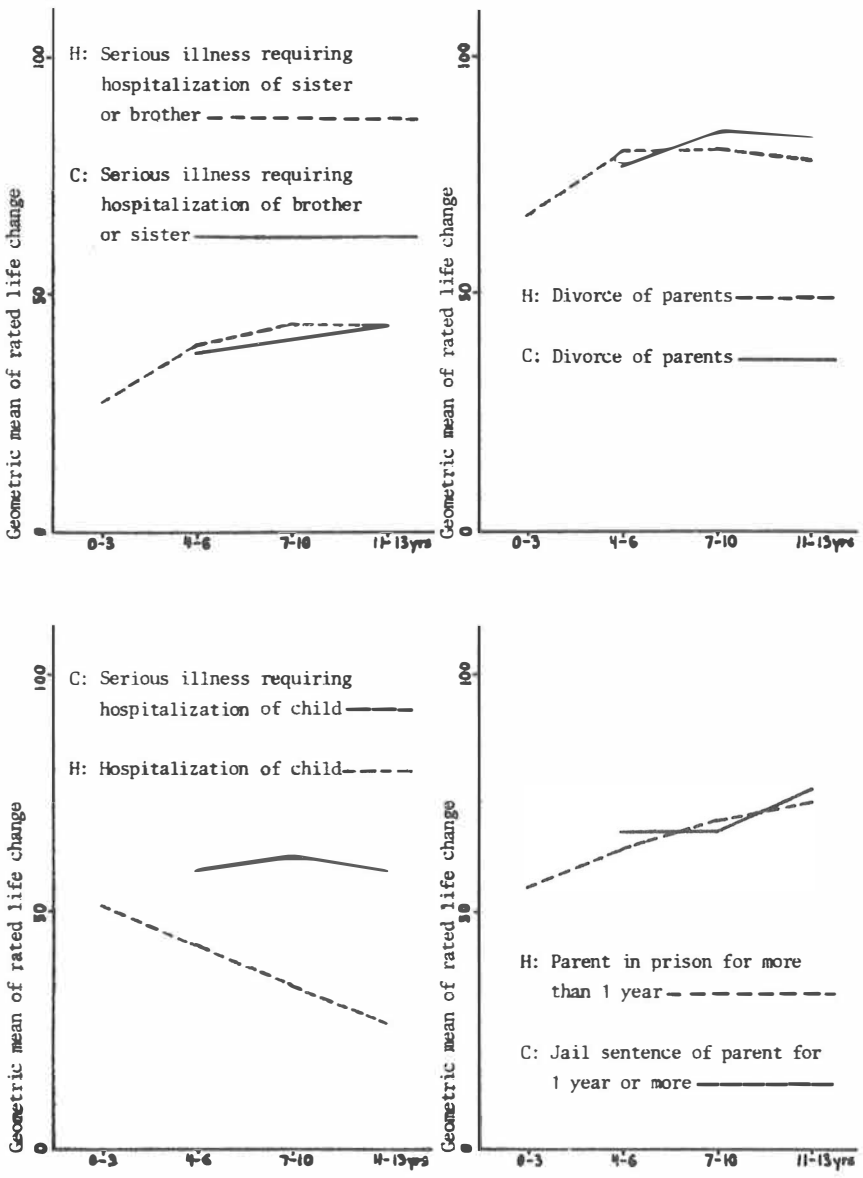



Figure 4. (continued)

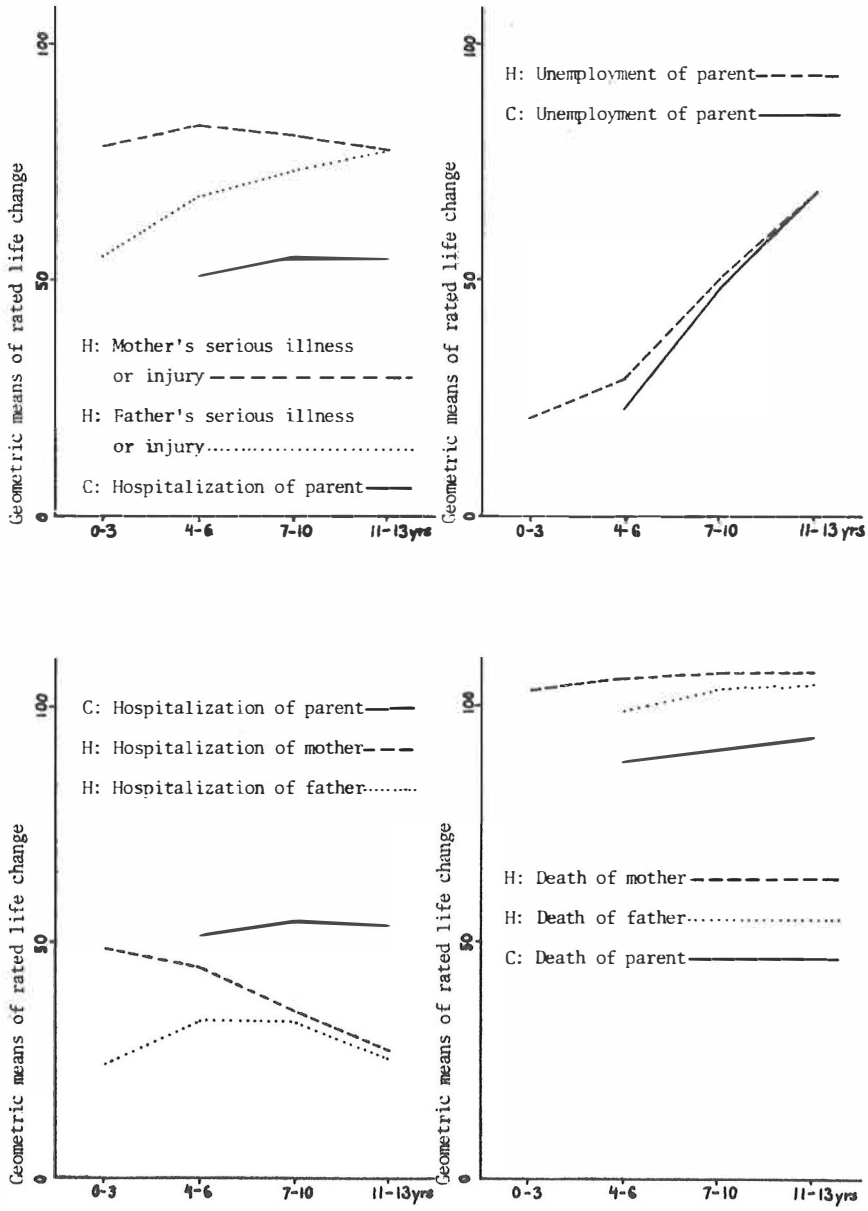



Figure 4. (continued)

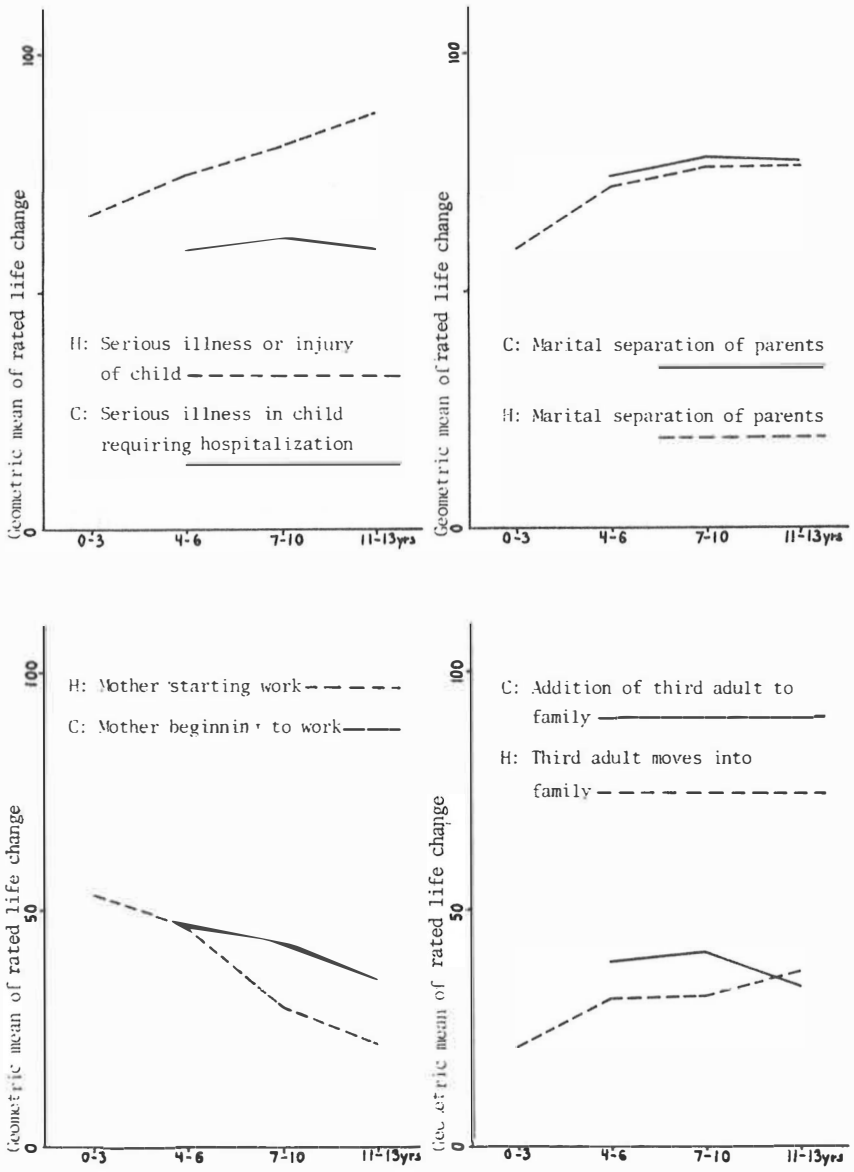



Figure 4. (continued)

death of parent), the average difference was 17.6. This result points to the fact that a very close correspondence exists between Finnish and American ratings if the same wording is used. This also shows the results' high validity.

Another way of expressing the correspondence is to investigate the rank order correlations between the ratings of the two studies. The average correlation (Spearman's rho, McNemar 1969) was .69. For events with the same/nearly the same wording it was .84, for events with different wording it was .54.

Monaghan et al. (1979) published their study after the collation of the data for this study. Although obtained by a slightly different method, their results may be used for comparison. There are many life events for which the ratings were exactly or almost identical for Monaghan et al.'s 6-11 year group and the 7-10 year group in this study. e.g. divorce of parent (LCU 81 in both studies), marriage to a step-parent (LCU 70 in both studies), change of school (LCU 41 in Monaghan et al., 44 in this study) and the move to a new house, which is not contained in Coddington's study (LCU 32 in Monaghan et al. and 31 in this study). There were also items with quite large differences, e.g. mother beginning full-time work (LCU 43 in Monaghan et al. 30 in this study). The last result confirms the difference between this and Coddington's study for the mother starting to work.

A general conclusion is that, in Western culture, there is a very high degree of correspondence concerning ratings of the readjustment required by different life events in a child population. The results resemble the findings for adults (e.g. Rahe 1969, Rahe, Lundberg et al. 1971). The closer the resemblance in wording, the higher the correspondence.

## 2.6. Discussion

Perhaps one of the most frequent themes in popular discussions concerning children and child rearing is whether or not some event is harmful for the child. Parents are worried about the impact of a divorce or a move. The personnel of institutions for children ask how the breaking of close bonds with the parent affects the child, and so on. This type

of question has been very difficult to answer, however, because of the lack of comparative data for different events. This study offers a method for comparison.

The results reflect a mixture of common sense opinions and the theoretical education of child guidance workers. They show that every event included in the life events list is considered as requiring at least some readjustment on the part of the child. Over the age groups, a change of residence was considered to require the least adjustment, but the value, 24, is still almost half that of the birth of a sibling. Thus, the experts' opinion is that changes, generally, have an impact on the child.

The results may also be analyzed against different theoretical opinions concerning children and their environment. During the last decade, there has been much written about the harmful effects of separation of mother and child, especially during the first months of life. Bowlby has been especially influential in this area. The results of this study, at least partly, reflected this view, as changes like a hospitalization of either mother or child, or a change of maid, or mother starting to work, were considered to require more readjustment in the lower age groups, whereas most other changes were considered more serious in the upper age groups.

Moreover, the quite intense debate of the last years concerning the importance of close interpersonal relations seemed to be reflected in the factor structure of the ratings with the first factor being one of serious interpersonal events. These events were also rated, on average, as much more serious than most other events.

There was a very high correspondence between the ratings of psychologists and social workers, with a correlation of .92. The groups agreed on most events but, interestingly, the psychologists rated the influence of death as significantly more severe than social workers. Considering the fact that the results seem to reflect theoretical discussion on child behaviour, it would be interesting to know how parents rate the same events and what the correspondence with the results obtained here would be. The surprisingly high correspondence of many of the ratings with those made in other countries also gives rise to questions concerning the generalizability of the ratings to different subgroups of raters, including the children themselves.

Another question is to what subgroups of children the results are applicable. Here, an "average" Finnish child most certainly has been thought of. It is quite possible that, in reality, a child living with only one parent, for instance, would experience the events in quite another fashion.

The life event list used here was compiled after discussions with child rearing experts. It is quite possible to include many more events, and in the future this should be done. As compared with the list of Coddington (1972a) and Monaghan et al. (1979), this list does not contain clearly positive events, like acquiring a new friend. Also, such events as the death of a pet, a change of teacher, taking an exam for a music school, or repeating a class, are excluded.

For the events included in the list, this study would seem to give quite reliable and valid data on ratings by child guidance workers. For many of the events, it would be desirable for the knowledge concerning them to be adopted into general practice by both parents and child rearing experts.

This study has concerned the severity of life events as seen by child guidance workers. It represents only one aspect of the problem. It is obvious that both parents and children rate the events differently, partly because they encounter the events. These aspect will be treated in Study C.

# 3. STUDY B. OCCURRENCE OF LIFE EVENTS

## 3.1. Introduction

One aim of life event research is an assessment of the number of events and/or of the amount of life change (the sum of life events weighted by severity ratings) in a population.

The occurrence of life events covers two phenomena. First, it concerns the occurrence of single life events in a population. Secondly, it concerns the occurrence of measures of abundant change. Both these phenomena may be studied in a total population and in different age groups. Other correlates of life change, such as social class or sex, may also be studied.

There are official statistics concerning the occurrence of some of the single life events. This is the case for, for instance, divorces and moves. For events connected with illness, there are epidemiological data. The frequency of some events, is, however, quite unknown, especially in relation to the age of the child. This is the case for, for instance, a change of school, the birth of a sibling, or a change of day-care arrangements. These changes may seem trivial, but together they form a central part of the environment of the child.

There are only a few studies concerning the occurrence of abundant change or environmental instability during childhood. Coddington's (1972b) study concerns the occurrence of life change during a one-year period in different age groups. In the preschool group, beginning nursery school was the most common change, in the elementary school group beginning another school year. The most common event in the junior high group was an outstanding personal achievement, and in the senior high school group breaking up with a boy friend. The average number of life change units in the total population was 152, and in the four age groups 65, 103, 196 and 227 respectively.

Huttula et al. (1980) studied 220 Finnish children living in the countryside to furnish comparative data for this study. Thus, their questionnaire covered retrospectively the whole childhood of 12 to 13-year-old children. Their results revealed that the death of grandparents was the most common event. There had been 142 deaths of grand-

parents in the sample and 49.5 % of the children had experienced at least one such death. The second most common event was a change of residence, experienced by 46 % of the children. The birth of a sibling was third, mother starting work fourth. This change has been experienced at least once by 46 % of the children.

In the total sample, the distribution of the number of life events was quite skewed, with most children having experienced five or six events and only 13 % having had more than ten events.

The frequency of life events rose from birth to three years, at which time there occurred a peak. Other peaks were at six, ten and twelve years.

The weighted life change score was formed by using the weights from this study. Again, there was a rise from birth to three years, with most readjustment required in age groups 10 and twelve. The distribution of the weighted life change score in the age groups much resembled the results of Coddington's (1972b) study.

In former studies, life changes have been studied in relation to sex and social class or occupation of the father. Coddington (1972b) found neither social class nor sex differences. Huttula et al. (1980) compared the occurrence of life events in children whose fathers were farmers with those whose fathers had some other occupation and found a highly significant difference, the former group having had considerably fewer life events. This result should warn against too many generalizations concerning the difference between the countryside and towns. At least in connection with life events the demarcation line seems to be between farmers and all other professions.

The age of the mother when the child is born is a central but little studied variable which might be connected with the amount of life change experienced by the child. An analysis (Hurme 1976) of the material of the study Aggression Risk Groups (1975) showed that anxious and aggressive children had younger mothers than the stable and introverted children, for instance. Moreover, a young age of the father, which correlates positively with the age of the mother, was connected with an unstable environment.

It might be hypothesized that younger parents are more immature than older ones and that this immaturity would lead to more life changes.

There are, in fact, studies which show this immaturity in several ways. Divorces, for instance, are almost twice as common in the age group 15-19 as in the group 20-24 years (Piepponen 1968). The immaturity is also reflected in an unrealistic and selfish attitude towards the children. De Lissovoy (1973) found, for instance, that teenage parents overestimated different developmental milestones and used much physical punishment. The parents were also impatient, insensitive and irritable. Sears, Maccoby and Levin showed (1957) that older mothers were somewhat warmer than younger ones with children other than the first-born. Williams (1974) again found that young parents wanted their children to be neat, quiet, passive and incurious. This lack of stimulation of the child's curiosity can also be seen in the study by Strandén and Vaalamo (1979), where younger mothers had introduced their children to culture, e.g. taken them to the library, more seldom than older ones.

It should be added that it is not only the parents who differ, but the circumstances in which young couples live are also different from those of older parents. Tolkki-Nikkonen's (1978) results concerned couples where both spouses were under twenty when marrying. Tolkki-Nikkonen states that a young age was connected with less education, less income, lower occupational status and the fact that the woman had been pregnant when marrying.

There are no studies showing directly that younger mothers would be involved with more life events than older ones. The results of the aforementioned studies give support for such a hypothesis, however.

## 3.2. Methodological problems

In forming measures of life change, some methodological problems have to be solved. First, a decision regarding what events should be included in the questionnaire has to be made. A second question concerns forming subscales of life change, i.e. scales based on sums of only some of the events in the questionnaire. A third problem is how to collect data concerning the occurrence of events.

For a considerable time, the life change questionnaire for adults used by Holmes and Rahe was the only one in use. Holmes and Rahe sta-

ted that they had chosen the events to be included on the basis of clinical practice. Other possible methods would have been an extensive review of the literature in the field, or questioning the subjects themselves about which events seemed important. Both methods were used later (e.g. Dohrenwend et al. 1978). The choice of events is important because, in adding together the events, it has to be supposed that they represent all possible events and that they form an unbiased estimate of instability.

The choice of items has indeed brought about some criticism. It has been said that reactions to events (e.g. illness) are included in the list (Cleary 1974), that items concern limited samples (Ander et al. 1974), that the scales contain trivial items (Cochrane & Robinson 1973) and, especially, that the items do not cover all possible events. This last criticism especially has led to the construction of new and longer scales (e.g. Cochrane & Robinson 1973, Hough et al. 1976, Chiriboga & Dean 1978 and Dohrenwend et al. 1978). These longer lists concern adults, however, and because of the attempt to replicate Coddington's study, much the same events are used here as in his study.

A central question is also whether or not to include events with a positive or ambiguous character. Early writers, following Holmes and Rahe, took the view that change per se is detrimental, be it positive or negative. Later, there have been several studies favouring the view that it is the negativeness or undesirability of events which is crucial (e.g. Brown & Birley 1968, Mueller et al. 1977, Vinokur & Selzer 1975, Gersten et al. 1974, Chiriboga 1977). Despite some evidence to the contrary (e.g. Dohrenwend 1973), it would seem wise to develop scales with mainly negative items. This is the case in this study.

In recent years, there has been a tendency towards forming subscales of life change. This presupposes enough items connected with each scale and thus has to be taken into account in choosing items. The sum of items rated as negative forms one of the most common scales. Another central dimension is the number of such losses as deaths or divorces (e.g. Brown 1974, Brown & Birley 1968, Brown et al. 1973a,b). Myers et al. (1972) and Paykel (1974) have used the term exit (as opposed to entrance) for the same phenomenon. The term loss has to be

conceived here rather broadly, containing, for instance, divorce. A third central dimension which forms the basis of a subscale is the degree of control held by the individual over the event (e.g. Dohrenwend 1974, Paykel 1974, Bryant & Trockel 1976, Tennant & Andrews 1977). Subscales may also be formed on the basis on the content of the events, e.g. work-related changes or changes in subsistence. Some of these dimensions are also applied in this study.

The question of how to collect the data concerning the occurrence of life events involves a decision concerning what data sources to use. The researcher may ask the individual or his relatives or he may use an agency or agency file. In every case he may use a questionnaire or obtain the data through interviews. In studying children, the parents would seem to be the most obvious reporters of events, even though studies (e.g. Yarrow et al. 1970, Mednick & Schaffer 1963) have shown that they try to put their children in a better light.

There is a methodological dispute as to which period should be covered. Most studies concentrate on recent events, but Gersten et al. (1977), for instance, used a five year period in their study of children. In fact, every event has affected the individual, at least through the mediation of other events. The only reason for not covering the whole life of an individual is the fact of a dissipating memory. Earlier events are therefore less accurately reported than later ones.

## 3.3. Problems

The general aim of Study B is to give a manysided description of the occurrence of life changes in 12 to 13-year-old children. The problems may be delineated as follows:

Problem a) The first aim of Study B is to give a picture of the occurrence of single life events in a group of 12 to 13-year-old children, both generally and at different ages. For some changes, there are data from former studies, thus allowing a comparison. For others, the result fill a gap in the knowledge about Finnish chidren.

Problem b) A second aim of Study B is to give a picture of the occurrence of environmental instability in the life of 12 to 13-year-old children, i.e. the occurrence of abundant change in this group, both generally and at different ages.

Problem c) A third aim of Study B is to uncover the relation of abundant change to certain background variables, i.e. the social class, sex, and age of the mother.

## 3.4. Methods

### 3.4.1. Construction of the life events list

To quantify the instability of the child's environment, a life event questionnaire was constructed in line with those of Holmes and Rahe (1967) and Coddington (1972b).

The events to be included were, firstly, those treated in detail in Section 4.3.4., e.g. death, divorce, change of residence, etc. In addition, two long interviews were conducted with a social worker and a psychologist at the Child Guidance Clinic of Central Finland, Jyväskylä, concerning the frequency of the different events in a Finnish child population as well as their impact. The events were also compared with those of the Coddington scale. In contrast to that scale, the one constructed for the present study did not contain, for instance, the event 'becoming a fully-fledged member of a congregation', an event which seems culturally irrelevant in Finland.

The parents were approached as follows:

Dear parents

There has recently been much debate on the fact that we live in a time of change. We change residence more often than before, divorces are more frequent than before and maternal employment implies changes for the family. The changes concern more and more individuals. At the present time, however, relatively little is known concerning the frequency of such events. A study is being carried out at the Institute of Psychology of the University of Jyväskylä, the aim of the first

phase being to analyse how many changes children and families with children have experienced and what sort of changes they have been.

The study concerns 12 to 13 -year-old children from Jyväskylä. I would therefore be grateful if you and/or your spouse would answer the questionnaire for your child of this age. Try to recall events and changes during his/her lifetime and answer the questions below accordingly. We have to put you to this bother because the only way to analyze children's life events is to ask the parents about them. In answering, you will help us to gather information concerning the living conditions of children. The information you give is, of course, confidential.

The main aim of the questionnaire was to obtain information concerning the child's life changes. The instructions for this were as follows:

If your child has experienced any of the following changes, please indicate his/her age at the time (in years). If some event has taken place several times, indicate his/her age at each time (for instance: the family has moved when he/she was 3 yrs, 5 yrs, 10 yrs).

The events were as follows:

Divorce of parents
Death of father
Death of mother
New marriage of mother
New marriage of father
Birth of sibling
Death of sibling
Death of grandparent
Change of community
Change of residence in the same community
A considerable decline in the family's financial status
Mother's serious illness or injury
Father's serious illness or injury
Hospitalization of mother (more than 1 week)
Hospitalization of father (more than 1 week)
Child's serious illness or injury
Hospitalization of child (more than 1 week)
Adoption
Change of school
Sister or brother left home
Child lost close friend

In addition to the above list, the questionnaire contained questions concerning the day-care arrangements of the child, the occupation of the parents, tehir working conditions etc.

### 3.4.2. Construction of the life change measures

Several measures of life change were formed. They reflect the theoretical discussion as to whether a weighted sum or a simple count of events should be used.

For the purpose of a detailed analysis of life change, the occurrence of each single life event was scored (e.g. first change of residence, second change of residence etc.) by giving it the value of the age of the child at the time of occurrence.

For each subject, two main scores were computed. Frequency of events, or life change frequency, is the simplest measure. It consists of a count of events and ignores both the age of occurrence and the readjustment required by each event. Thus, the death of the mother, for instance, obtained the same weight as a change of maid. The changes contained in this index are presented in Appendix 2.

Life change or weighted life change designates the weighted sum of different events. The weights consisted of the geometric means from Study A. The weights were chosen depending on the age of the child at the moment of the event. The events are presented in Appendix 2.

These two scales, 'frequency' and 'life change' differed in their nature, but despite this they correlated .63. The frequency measure was composed first of all of changes connected with changing day-care conditions. The complete scale correlated .79 with the number of different day-care sequences and .74 with the number of individuals having taken care of the child, but -.52 with the mother having taken care of the child. Most events with a correlation of over .25 with the frequency measure were of a less serious nature.

The weighted life change score correlated more strongly with the more serious changes (e.g. divorce or hospitalization or serious illness of the mother), but only slightly (.27) with the number of caretakers (which was not a part of the scale).

Both scales correlated more with changes during the preschool years than with changes during the last year.

Besided these two main scores, two more scales were used in Study B. The first one was a sum of unweighted events which had taken place between 0 and 4 years, the second of changes during the year preceding the interview.

## 3.5. Subjects

The sample consisted of families drawn at random from the lists of the ordinary classes of the comprehensive school of Jyväskylä (about 60.000 inhabitants). The sampling was made by drawing a letter (R) randomly and then taking alphabetically every sixth pupil born during 1964 and 1965 until a quota of 600 families was completed. The families were contacted in March, 1977. Thus, the children were 12 to 13 years old at the moment of the study.

In all, 453 families or 75.5 % returned the questionnaire described above, some after a request by post. The return rate must be considered quite high, considering the fact that the instrument contained some rather intimate questions, on such areas as divorce, illness or adoption.

### 3.5.1. Social status of the respondents

The school catalogue allowed a tabulation of the profession of the parents. The social status of the father was ranked according to the system of Rauhala (1966). The distribution of the whole sample and the respondents was compared with the distribution of social status in the general population for males (Rauhala 1966). The result is shown in Table 4.

Table 4. Division of the families into social status groups as compared with data for males in the general population in per cent

| | Social group | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | High | | | | | | | | Low |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| General population | 0.7 | 2.7 | 17.3 | 14.8 | 22.2 | 21.7 | 20.0 | 8.2 | 2.4 |
| Whole sample | 0.5 | 4.2 | 5.5 | 15.1 | 29.1 | 23.3 | 17.8 | 0.2 | 0.8 |
| Respondents | 0.5 | 5.1 | 9.1 | 18.8 | 27.4 | 23.1 | 15.2 | 0.0 | 0.8 |

The families of the whole sample corresponded quite well to the division of the general population into social status groups, as can be seen from Table 4, although the lower status groups were somewhat underrepresented. The underrepresentation was accentuated among those who actually returned the questionnaire. In this group, again, status group 2, i.e. highly qualified personnel, often with an academic education, was overrepresented. The general picture is that the division into status groups shows "a regression towards the mean", i.e. more respondents are from status groups 4, 5, and 6 than is the case in the general population. Despite this, the respondents seemed to represent the population as a whole fairly well.

## 3.6. Results

### 3.6.1. Occurrence of single life events

The frequencies of each single life event at different ages are represented in Appendix 3. Figure 5 gives a comparison of the occurrence of the events in the whole groups of respondents.

It can be seen that the most frequent change has been the change of day-care arrangements. This change constituted about 28 % of all life changes. A change of residence has also been quite a general change. The most infrequent changes have been deaths in the nuclear family.

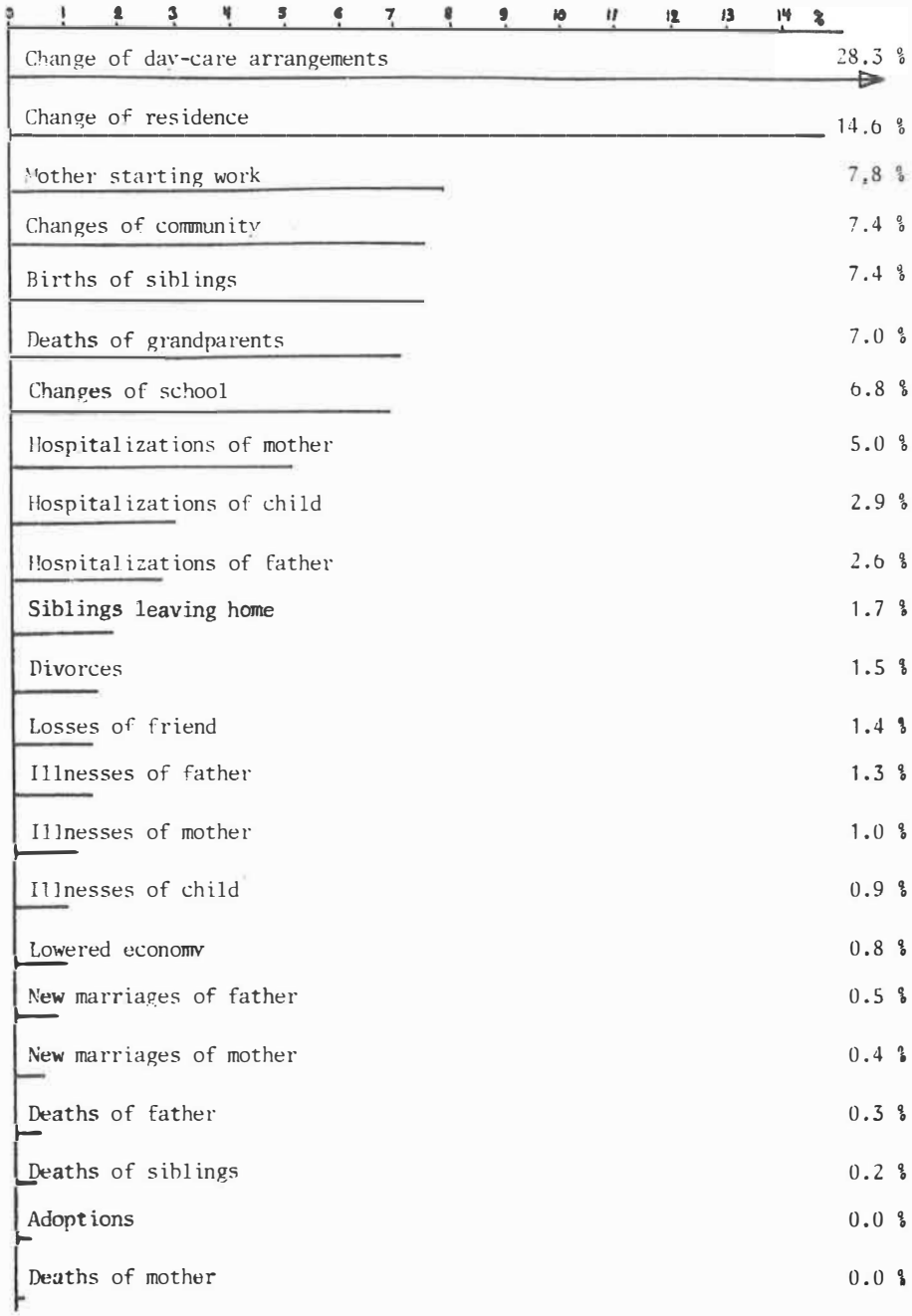



Figure 5. Occurrence of single life events in per cent of the total number of events

The changes are grouped below into broader categories, which partly correspond to the classification in Section 4.3.4. For each change, the life change unit (LCU) from Study A is presented. The frequency is also compared with the occurrence of the event in former studies.

The result for deaths are presented in Table 5.

Table 5. Occurrence of deaths

| Life event | Life change units (LCU) | Frequency | | N |
|---|---|---|---|---|
| Death of mother | 106 | 2 | 0.4 % | 452 |
| Death of father | 94 | 13 | 2.9 % | 452 |
| Death of sibling | 75 | 6 | 1.3 % | 450 |
| Death of 1 grandparent | 34 | 151 | 33.6 % | 448 |
| Death of 2 grandparents | | 46 | 10.2 % | 448 |
| Death of 3 grandparents | | 4 | 0.9 % | 448 |
| Death of 4 grandparents | | 2 | 0.5 % | 448 |

The father had died in 2.9 % (13) of the cases, the mother in 0.4 % (2). Much the same ratio was found in the study Aggression Risk Groups (see Pulkkinen 1977), although 6.6 % of the fathers in that study had died and approximately one per cent of the mothers. The children were somewhat older than in this study, however, and this may explain the difference. The higher incidence of deaths among middle-aged Finnish men was also reflected in the results from a Finnish village (Huttula et al. 1980). In that study 7.3 % of the fathers and 0.9 % of the mothers of 12 to 13-year-old children had died.

The siblings of six children (1.3 %) had died. More than half of the children (54.8 %) had never experienced the death of a grandparent. About 34 % had experienced one and 10 % two. Five children had experienced three of these deaths and only two had gone through the death of all four grandparents.

The results for divorces are presented in Table 6.

Table 6. Occurrence of divorces

| Life event | Life change units (LCU) | Frequency | | N |
|---|---|---|---|---|
| Divorce of parents | 77 | 59 | 13.1 | 450 |
| New marriage of mother | 67 | 12 | 2.7 | 451 |
| New marriage of father | 60 | 16 | 3.6 | 449 |

In 13.1 % of the cases, the parents were divorced, but as they had remarried, either after the divorce or death of their spouse, 87 % of the children lived with adults of both sexes. Peräläinen's (1974) data show that, of all families with children under 12, 9.02 % were composed of either a mother plus a child or a father plus a child. This applied to 12 % of the sample in this study. A higher divorce rate for towns may at least partly explain the discrepancy.

In 29 % of the divorces, the child was under four, in 25 % between four and seven, in 43 % of the divorces between seven and eleven and in four per cent 12 or 13 years old. Niemi and Suominen (1976) report that there were 12 000 children in divorced families in 1972. Of these, 46.8 % were under six. In this study the corresponding figure was 50.8 %. Again, the fact that Niemi and Suominen's data are based on the whole country and the data from this study concerns only families living in Jyväskylä certainly explains the differences.

Of the divorced mothers, about 20 % had remarried, of the fathers about 27 %. This corresponds quite well to the data of Tani (1971), who found that 18 % of divorced women between 28 and 52 remarry. Peräläinen (1974) has estimated that a third of divorced women and one half of divorced men remarry.

The results for mobility are presented in Table 7.

Table 7. Occurrence of mobility

| Life events | Life change units (LCU) | Frequency | | N |
|---|---|---|---|---|
| 1 change of school | 44 | 144 | 32.1 % | |
| 2 changes of school | | 49 | 10.9 % | |
| 3 changes of school | | 11 | 2.5 % | 449 |
| 4 changes of school | | 1 | 0.2 % | |
| 1 change of community | 42 | 107 | 23.8 % | |
| 2 changes of community | | 30 | 6.7 % | |
| 3 changes of community | | 19 | 4.2 % | 450 |
| 4 to 6 changes of community | | 9 | 2.0 % | |
| 1 change of residence | 24 | 200 | 44.5 % | |
| 2 change of residence | | 77 | 17.2 % | 449 |
| 3 changes of residence | | 28 | 6.2 % | |
| 4-5 changes of residence | | 12 | 2.7 % | |
| 6-11 changes of residence | | 9 | 2.0 % | |

57.4 % of the children had never changed school, about 32 % once, 11 % twice and 2.5 % had experienced at least three changes of school. Most of these changes took place during the second school year. It must be observed, however, that in some cases the whole class may have changed school.

In the sample, 63 % of the 453 children had not moved, but lived all their life in Jyväskylä. The percentage of children who had changed community is quite in line with results from the general statistics for Finland, according to which 47.4 % of children under 14 have changed community at least once (STV 1974, Table 56). The number of changes of community is, however, quite dependent on the community. For instance, Andersson (1979) found that 53 % of the subjects in her

study from the city of Göteborg in Sweden had moved either to the vicinity of the city or elsewhere in the country between the age of five and 12. In this study, the corresponding percentage is about 13. Göteborg is, however, clearly a city with much industry. The frequency of moves is, again, more frequent in the city of Jyväskylä than in Leppävirta, a small Finnish village (Huttula et al. 1980). While 37 % of the children of this study had moved at least once, 31.8 % of the children in the countryside had experienced this change and the corresponding numbers for the second change of community were 8.6 % and 3.0 %.

In examining the age of the child at the moment of the change of community, it is interesting to note that only 2 % (9 cases) of the families had moved before the first birthday of the child. In all, almost 21 % had moved before the age of four, and 12 % of all families when the child was between four and nine.

13 % had changed community twice or more and, of these, 26 % had moved the second time under four years of age. About 8 % of all children had moved at least twice before school age. Nine children had moved three times before that age. In all, 6 % of the children in the sample had changed community at least three times.

In all, 24 % of all children had moved only once, 6.7 % twice, 4.2 % three times, 0.4 % four times, 0.9 % five times, and three cases, or 0.7 %, six times.

As to change of residence in the same community, this has a much lower readjustment rating at all age levels in Study A than a change of community. 28.3 % of the children in the sample had never experienced this event. In the village population of Huttula et al.'s (1980) study, the corresponding percentage was 54. Thus, in towns the incidence of changes of residence is, as expected, higher than in the countryside.

44 % in this study had changed residence one, 17 % twice, 6 % three times and 11 % four times. One child had changed residence nine times and another 11 times.

The first change of residence had most often (55 cases) taken place at the age of two. Again, as with a change of community, there were considerably fewer changes during the first than during the following years, only 12 cases.

The results for maternal employment are presented in Table 8.

Table 8. Occurrence of maternal employment and day-care

| Life events | Life change units (LCU) | | Frequency | |
|---|---|---|---|---|
| Mother starting work | 37 | Age of child when mother started work | | |
| | | 0 | 170 | 39.8 % |
| | | 1 | 47 | 11.0 % |
| | | 2 | 27 | 6.3 % |
| | | 3-4 | 41 | 9.6 % |
| | | 5-6 | 30 | 7.0 % |
| | | 7-8 | 33 | 7.4 % |
| | | 9-10 | 31 | 7.0 % |
| | | 11-13 | 8 | 1.8 % |
| | | Not working | 57 | 12.8 % |
| | | | 444 | 100 % |
| Change of nursery or kindergarten | 27 | Changes in caretakers | | |
| | | 0 | 136 | 30.4 % |
| | | 1 | 47 | 10.5 % |
| | | 2 | 53 | 11.9 % |
| | | 3 | 50 | 11.2 % |
| | | 4-5 | 71 | 15.9 % |
| | | 6-7 | 44 | 9.8 % |
| | | 8-9 | 24 | 5.4 % |
| | | 10-12 | 12 | 2.6 % |
| | | 13-15 | 10 | 2.2 % |
| | | | 447 | 100 % |

(continues)

Table 8. (continued)

| Number of different caretakers | Frequency | |
|---|---|---|
| 1 | 132 | 29.5 % |
| 2-3 | 144 | 32.2 % |
| 4-5 | 99 | 22.1 % |
| 6-8 | 62 | 13.8 % |
| 9-15 | 9 | 2.2 % |
| | 446 | 100 % |

In the sample, 133 or 29.7 % of the children had been taken care of solely by the mother. 131 or 29.3 % had been transferred to some day care setting before their first birthday, 75 or 16.8 % during the first year, 8.5 % during the second year, and 15.7 % between the third and the sixth years.

About 29 % of the children had had only one caretaker. In Huttula's et al. (1980) study from the Finnish countryside 61 % had had only one caretaker. The big difference clearly reflects the higher percentage of maternal employment in towns. - In this study, 32 % of the child had had from two to three caretakers (the mother may have been one of them), 36 % had had from five to eight caretakers and 2 % from nine to fifteen.

In looking at the number of changes in day-care situations, be it the same person or the same institution several times, one third of the children again had had only one period (mostly the mother), 22 % had had two or three periods, 37 % had had four to eight periods and 12.5 % had had nine to 16. There were six children with 14 different care-taking periods.

It was mentioned above that the mother was the main caretaker from birth to seven years in about one third of the cases. In another 8 % she took care of the child for six years. During the last year the child probably went to a preschool or kindergarten. In 12 % of the cases, the mother had taken care of the child for only one year and in 28 % between two and five years.

In this study, the father had taken care of the child in only 5 % of the cases (19 families). In 12 of these families, this had been undertaken by the father for only one year.

In 18 % of the cases (81 families) the grandmother had taken care of the child for some period. In seven of these cases, she had been the main caretaker until school age. Mostly, however, she had this duty for only one year. Yudkin and Holme (1963) report that one third of the children under school age in England had been taken care of by their grandmother. In other studies also the percentage is higher than in Finland. Lehr (1975) mentions a study by Pross from 1973 with comparative data from different European countries. It was found that the grandmother took care of children under school age in 78 % of the families in Luxemburg, 69 % in Italy, 63 % in Belgium, 55 % in BRD, 35 % in Holland and 28 % in France. In comparing the data, it should be remembered, however, that the children in this study were from an urban environment only.

In about 40 % of the families, a maid had taken care of the children in their own home, in most cases, however, only for one or two years. About one third of the children had been taken care of in some other family for some time, mostly for one or two years. Ten children (2.2 %) had been in this sort of care for six years and four children for seven years, i.e. even after beginning school.

39 % of the children had sometimes been to a nursery or kindergarten. Most of them had been there for one year only, probably a playgroup. Six children (1.3 %) had been to these institutions for six years, and the same number for five years.

The results for the births of siblings are presented in Table 9.

Table 9. Occurrence of births of siblings

| Life events | Life change unit (LCU) | | Frequency | |
|---|---|---|---|---|
| Birth of sibling | 50 | 0 | 238 | 52.9 % |
| | | 1 | 169 | 37.6 % |
| | | 2 | 36 | 8.0 % |
| | | 3-4 | 6 | 1.3 % |
| | | 5-12 | 1 | 0.2 % |
| | | | 450 | 100 % |

53 % of the children had never experienced the birth of a sibling (some because they were only children, others because they were the youngest in the family). 38 % had experienced the birth of one, 8 % the birth of two and 1.5 % the birth of more. Most children had been two years old when the first sibling was born.

Table 10 presents the occurrence of hospitalization.

Table 10. Occurrence of hospitalizations

| | Life change unit (LCU) | | Frequency | | N |
|---|---|---|---|---|---|
| Serious illness of mother | 80 | | | | |
| | | 0 | 413 | 91.9 % | 449 |
| | | 1 | 33 | 7.3 % | |
| | | 2 | 3 | 0.7 % | |
| Serious illness or injury of child | 77 | 0 | 418 | 93.1 % | 449 |
| | | 1 | 27 | 6.0 % | |
| | | 2 | 1 | 0.2 % | |
| | | 3 | 2 | 0.5 % | |
| | | 5 | 1 | 0.2 % | |

(continues)

Table 10. (continued)

| Life events | Life change unit (LCU) | Frequency | | | N |
|---|---|---|---|---|---|
| Serious illness of father | 69 | 0 | 403 | 90.0 % | 448 |
| | | 1 | 40 | 8.9 % | |
| | | 2 | 5 | 1.1 % | |
| Hospitalization of mother | 40 | 0 | 319 | 70.9 % | 450 |
| | | 1 | 94 | 20.8 % | |
| | | 2 | 18 | 4.0 % | |
| | | 3 | 10 | 2.2 % | |
| | | 4 | 8 | 1.7 % | |
| Hospitalization of child | 39 | 0 | 378 | 82.4 % | 449 |
| | | 1 | 60 | 13.4 % | |
| | | 2 | 8 | 1.8 % | |
| | | 3 | 6 | 1.3 % | |
| | | 4- | 5 | 1.1 % | |
| Hospitalization of father | 29 | 0 | 378 | 84.8 % | 446 |
| | | 1 | 49 | 11.0 % | |
| | | 2 | 11 | 2.5 % | |
| | | 3 | 3 | 0.7 % | |
| | | 4- | 5 | 1.1 % | |

The child had experienced illness of the mother in 8 % of the families and her hospitalization in 29 %. Some of these hospitalizations were due to childbirth. 10 % of the children had experienced a serious illness of the father and his hospitalization in 16.4 % of the cases. It should be remembered, however, that there were also some fatherless children and thus it is quite difficult to draw any conclusions as to the incidence of illness in fathers in this population in general.

Recent statistical data (Elinolosuhdetiedustelu 1978) indicate, however, that, on average, 13 % of men between 25 and 64 report poor health. For women, the corresponding figure is 9.5 %. The results of this study both for men and women correspond quite well to these data.

7 % of the children had had some serious illness or injury and 8 % had been hospitalized. The higher value for hospitalization clearly shows that this life event also contains less serious changes. Amnell (1974) found in the 1955 cohort of children that 8.7 % had had psychiatric diseases and 4.9 % other diseases up to the age of 14. As there were some children in the present study who had had psychiatric treatment, the result corresponds quite well to Amnell's study, especially as the children of this study were from ordinary classes only. Urponen and Urponen (1975) report an estimate of 53/1000 children with long term illness in the age groups 0-15 years. The illness occurrence, 32 children out of 453, would correspond to 70/1000, but this figure also includes serious, but short term, illness. Again, as the sample represents ordinary classes, many long term cases are excluded and it is thus quite difficult to find data for comparison.

### 3.6.2. Occurrence of abundant change

The occurrence of single changes has been presented above. These data have not concerned the occurrence of several such events in the same individual, nor the amount of abundant change at different age levels. These points are treated below.

Figure 6 shows the distribution of the number of life events in the sample.

As Figure 6 shows, the distribution of the changes frequency is rather skewed. About 27 % of the children had experienced eight or fewer of the events contained in the change frequency measure (see Appendix 2). The mean number of events is 14.6, the standard deviation 8.4. 61 % of the children had experienced 15 or fewer of the events and only a small percentage (about 5 %) had experienced 30 events or more.

The picture was very much the same for the weighted life change

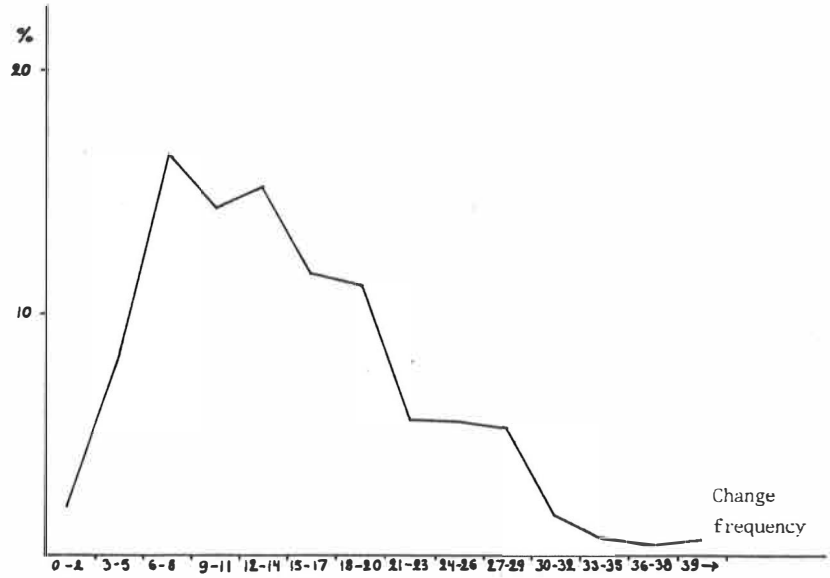



Figure 6. Distribution of cases with a different number of life events in per cent

score (see Appendix 2 for the changes included in this scale). The graph is presented in Figure 7. The graph seems to be even more skewed

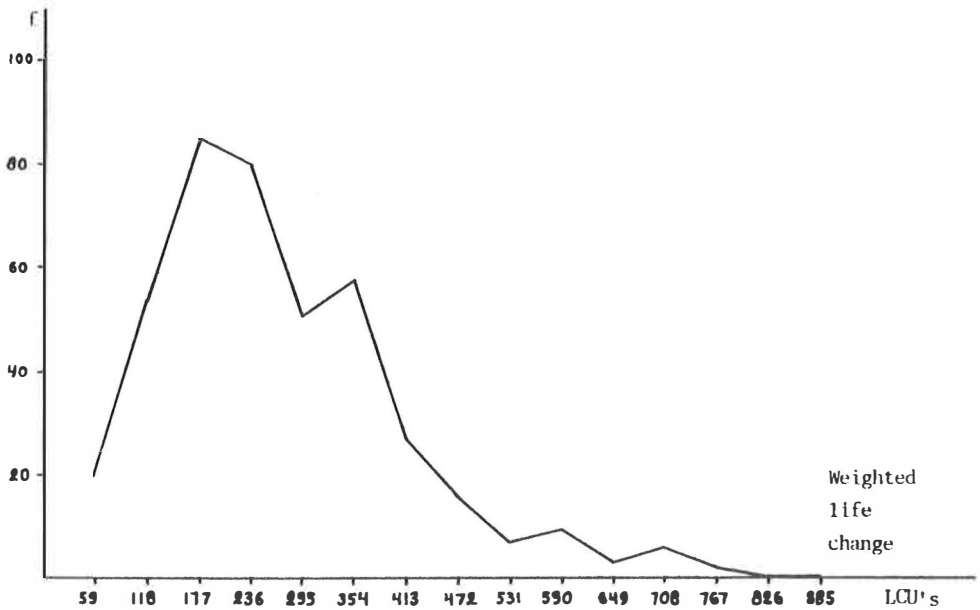



Figure 7. Distribution of weighted life change in the sample

for this measure, indicating that very few cases had experienced a really large number of changes requiring much readjustment. The mean was 41.4 on the scale employed here, with a standard deviation of 25.6. The mean corresponds to a life change unit value of 244. Coddington (1972b) also reports the mean value for different groups of children, but for a period of one year only. Comparisons cannot thus be made.

In addition to a description of the number of children with different degrees of life change, another way of describing the instability of children's environment is to inspect the amount of change in different age groups. Data from Appendix 3 are presented below. Figure 8 depicts the occurrence of life events in different age groups and Figure 9 the sum of weighted life event scores over the cases at different age levels. - It should be observed that the events are not exactly the same as in the frequency and weighted life change scales above.

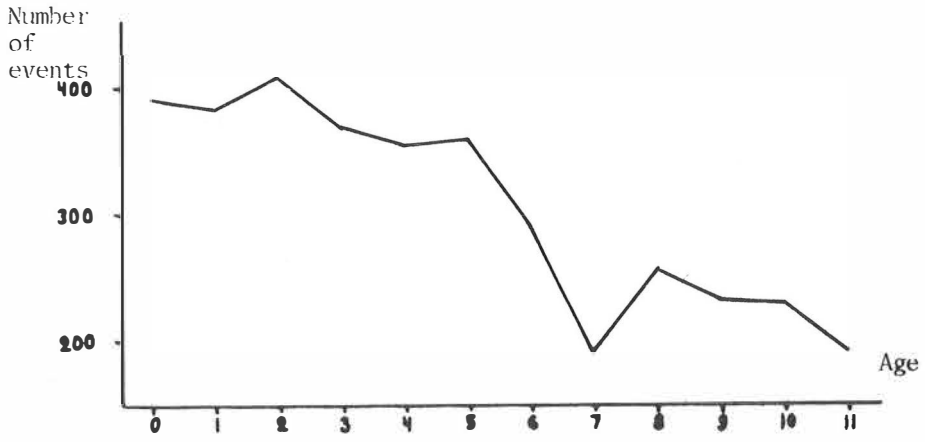



Figure 8. Number of events in age groups

Figure 8 shows that most life events took place between the age of two and four. After the age of six, there was a clear decrease, with the age group of seven having the fewest events. The many changes in the younger age groups were due to the many day-care changes.

Figure 9 shows the sum of weighted life change in different age groups.

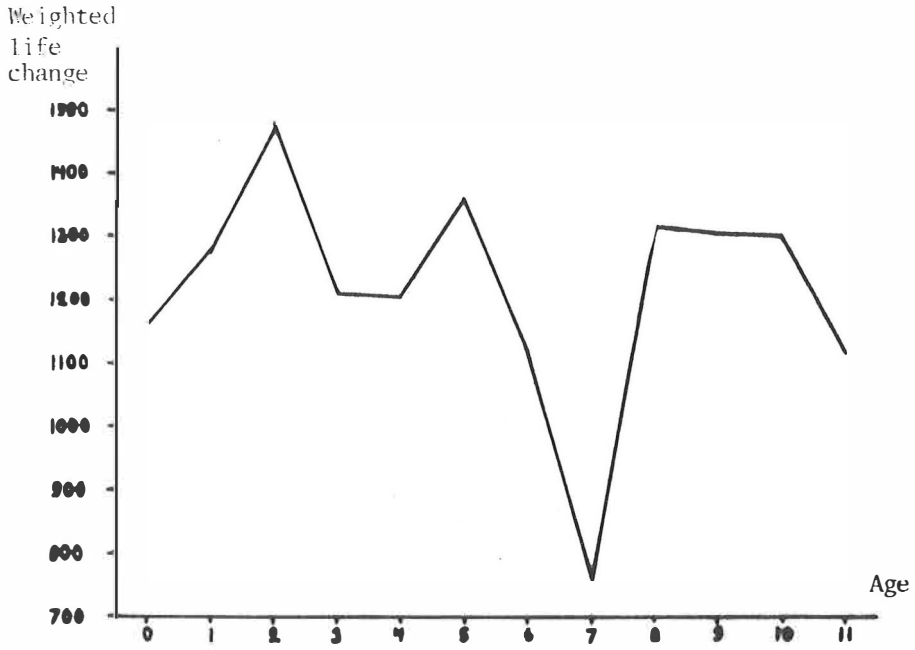



Figure 9. Weighted life change in age groups

From Figure 9 it can be seen that the distribution of the weighted life change score is even more peaked than that of the frequency score. The score here contains day-care changes, which partly explains the fact that the age groups of two had experienced the highest amount of readjustment. At the age of seven, the children had experienced surprisingly little change. This may be due to the fact that parents postpone other changes during the year when the children start school. The rise for the age groups from eight onwards is partly explained by the changes of school. The beginning of school is not contained in the graph. If this was the case, the graph would then contain a peak at the age of seven. The result shows the tendency of this type of score to fluctuation, depending on the events of which it is composed.

The above results indicate only that some children experience several changes. They do not tell what sort of changes occur together. It is, however, a general clinical finding that problems tend to accmulate. To test this assumption, factor analyses of both the weighted

and unweighted change were performed after removing events containing purely technical dependencies, e.g. remarriage following a divorce. In addition to some purely technical factors, a multi-problem factor emerged in the analysis of the weighted scores, showing the joint occurrence of hospitalization of both father and child, a decrease in financial status, divorce, and a sibling leaving home. Considering the fact that the children were from ordinary classes, this factor might be still clearer in a more heterogeneous population.

### 3.6.3. Correlates of life change

Life change was studied in relation to sex, social class and the age of the mother. Table 11 summarizes the results for the occupation of the father, which can be used as an index of social class.

Table 11. Social class and life change

| Life event scale | | Social class based on Rauhala's classification of occupations | | | | |
|---|---|---|---|---|---|---|
| | | High status | | Low status | | |
| | | 1-3 | 4-6 | 7-9 | Total | p< |
| Life event frequency | X | 15.8 | 14.2 | 12.7 | 14.6 | ns |
| | s | 11.1 | 8.0 | 6.6 | 8.3 | |
| | N | 58 | 273 | 63 | 453 | |
| Changes during previous year | X | 0.78 | 0.91 | 0.79 | 0.92 | ns |
| | s | 1.02 | 1.21 | 0.97 | 1.21 | |
| | N | 58 | 273 | 63 | 453 | |
| Changes 0-4 years | X | 5.14 | 4.60 | 4.65 | 4.72 | ns |
| | s | 2.28 | 1.80 | 1.93 | 1.95 | |
| | N | 58 | 273 | 63 | 453 | |
| Weighted life change | X | 44.4 | 38.6 | 33.7 | 41.42 | ns |
| | s | 24.6 | 22.7 | 25.0 | 25.0 | |
| | N | 56 | 256 | 61 | 427 | |

Table 11 shows that the three status groups did not differ significantly on the different life change measures. While Coddington found slightly more changes in lower groups, a reverse trend can be seen here. The t-values for the difference between groups 1-3 as compared with 7-9 approached significance ($p < .10$) for the number of life events and between groups 1-3 and 4-6 for weighted life change. Dohrenwend (1974) reports that community leaders gain events for which they themselves are responsible more often than men from an average population. These might include promotion and a change of residence as a consequence. The community leaders represent the upper social classes and this finding may thus also partly explain the differences of this study.

Table 12 summarizes the results for the age of mother when the child was born. It shows very clear differences in the number of life events, younger mothers having considerably more events. This can be explained partly by the birth of siblings, but there are also other differences. The differences are bigger for the preschool years than later,

Table 12. Life change and age of mother when child born

| Life event scale | | Age of mother when child born: Under 22 | 23 and over | Total | t / df | p< |
|---|---|---|---|---|---|---|
| Life change frequency | X | 17.25 | 13.83 | 14.61 | -3.70 | .001 |
| | s | 10.00 | 7.60 | 8.38 | 448 | |
| | N | 103 | 347 | 453 | | |
| Changes during previous year | X | 1.18 | 0.85 | 0.92 | -2.41 | .05 |
| | s | 1.50 | 1.10 | 1.20 | 448 | |
| | N | 103 | 347 | 453 | | |
| Changes before school age | X | 5.52 | 4.49 | 4.72 | -4.85 | .001 |
| | s | 2.61 | 1.80 | 1.95 | 448 | |
| | N | 103 | 347 | 453 | | |
| Weighted life change | X | 47.97 | 39.38 | 41.42 | -3.00 | .01 |
| | s | 26.0 | 24.5 | 25.10 | 423 | |
| | N | 98 | 327 | 427 | | |

but the same trend also continues for changes during the preceding year. It is not only the number of events which is higher in the group with young mothers, but more readjustment was also required in this group. This is, however, partly due to the high number of small events. There was, for instance (and quite as expected), more deaths in the group with older mothers. It is also evident that if the mother was young when the child was born, this child had experienced more births of siblings than older children and this may explain the difference.

There were no statistically significant differences between boys and girls in the above measures. An analysis of the differences for single life events revealed that there were slight differences, but out of 80 comparison only a handful were significant at the 5 % level. The boys had been slightly more hospitalized and taken care of for longer periods by persons outside of the family, for instance. It can be concluded in general that the sexes do not differ as to life event and life change occurrence.

### 3.6.4. Examples of cases with different amount of life change

To give a picture of the instability of children's environments, cases with a different amount of life change will be described below.

#### Case 385: Least change in the sample

Case 385 was a girl. The mother was 34 when the child was born, the father 44. The family had a son of 25. Both parents had only primary school education. The father worked at a factory, the mother helped at a hospital.

The girl had not experienced a single life event. The family had lived in the same flat, owned by the factory, all the time. The girl had gone to the same school and there had been no sickness in the family. The mother had taken care of the girl herself.

Case 203: A child with typical life change

Case 203 was a girl who represented an average amount of life change in the sample. The mother was 24 when she was born, the father 27. The father had primary school and vocational school education, the mother had finished high school. Both had worked regularly during the girl's childhood. The mother started work six weeks after the birth and a maid took care of the girl for 3-4 months. Then the girl was taken care of in a family. This lasted until the age of five. At this age, the grandparents took care of the girl for one year and she then went to kindergarten for one year.

At the age of one, the girl experienced a change of residence, and at the age of nine the death of her grandfather. At the age of ten, she changed school as well as residence.

The life events for this case are distributed as in Figure 10.

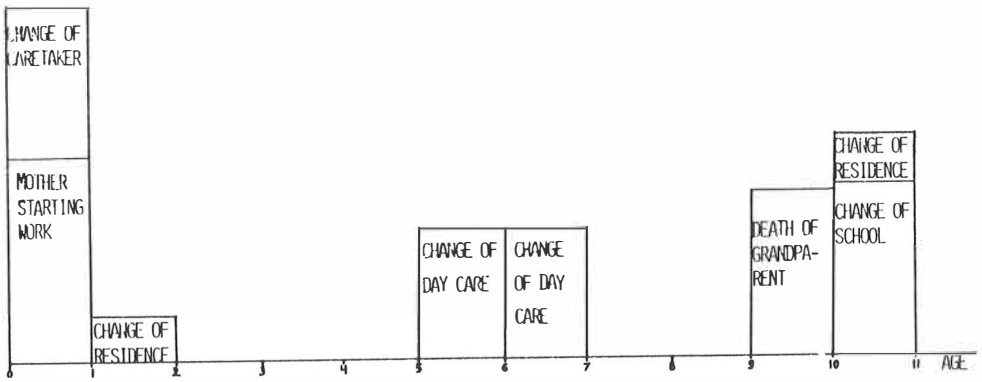



Figure 10. Distribution of events in a case with typical life change

Case 445: The abundant change groups

The father of this girl was a skilled worker with primary school and vocational school. The mother had the same education. Both worked regularly during the day and, in addition, they took care of the house where they lived.

Both parents were 19 when the child was born. At the age of 3, the girl got a brother. The mother took care of the girl for the first six weeks, but she had to start work for financial reasons. During her first year, the girl had three caretakers. The first family was quite good, but soon moved to another community. The second and third caretaking periods lasted for only three months each. The families both lived too far away and because of this the girl had to wake up too early. At the age of one, the girl was accepted at a nursery but after one month she caught pneumonia and, according to the mother, this was such a traumatic experience that she hardly reacted at all in the company of the parents, this lasting for months.

The next caretaker was a young girl who came to the family, but this relationship lasted for only two months, because the mother of the caretaker got ill. The girl was then taken care of in a family for a few months and then for a further two months a young girl looked after her at home.

When the girl was two the family moved but, according to the mother, this did not affect the child. The girl was then taken care of by a neighbour for 1 1/2 years, the longest period in her life. After this period, the family moved again, but so close to the old home that this did not involve a change of friends. The girl was then in a new family for two months. This was followed by two maids at home for two months each. The first maid moved because of her mother's illness, the second was appointed only temporarily. After this, the girl was again in a new family, which she liked so much that she cried each time she had to leave. This care lasted for about 1 1/2 years. Then, for 2-3 months a young girl took care of the child but the mother was not content with her and changed to another, also for a few months only. In all, about 15 persons took care of the girl before the age of 7. In addition to them, she was taken care of by the mother's sisters during the summers.

At the age of eight the girl experienced quite a number of changes. The mother was hospitalized because of serious flu, the father lost his driving licence because of drinking, taking it so hard that he was hospitalized because of excessive drinking and drug abuse. At the same time, the girl caught smallpox and also suffered from malfunction of the stomach, being absent from school for more than 100 hours. The family's financial status was badly lowered, but they obtained help from relatives.

At the age of 10, the girl experienced a third move. This also implied a change of school.

The distribution of life events for this case are shown in Figure 11.

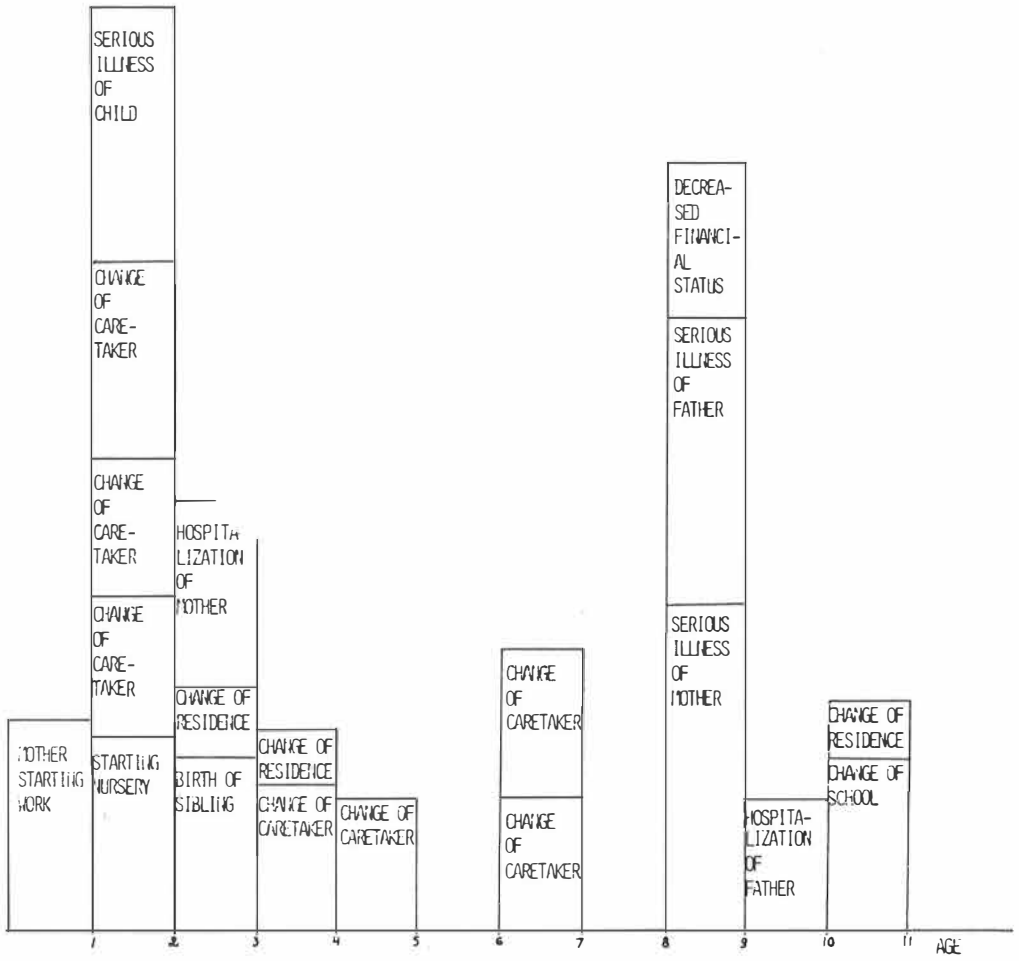



Figure 11. Distribution of events in a case with abundant change

## 3.7. Discussion

The methodological approach of this monograph is eclectic. The approach which seems the most appropriate has been chosen for each study. Thus, the data in Study A were gathered by ratings, whereas the present study relies on a method close to that used in collecting statistical data, i.e. a very simple form of questionnaire, requiring only an indication of the age of the child at the moment of the event. This method yields clearly descriptive, and quite detailed, data concerning the child's environment. The data may seem trivial, but taken together they enrich the picture of a Finnish child's life. In assessing the contributions of the results of Study B, it should be asked whether or not it has any new information to give concerning the environment of Finnish children.

The study clearly concerns different classes of events. First, there are events which have been the target of a lively debate. This is especially the case with divorce. It is a well-known fact that the divorce rate is high and the findings of this study confirm these results. The same also applies to moves and illness.

Secondly, there are events which have also been much discussed, but not especially from the point of view of instability. For such events, this study gives some new information. For instance, there has been much written on the fact that the child should have a stable, continuous relationship with at least one adult. This has mostly been interpreted as referring to the mother. This easily leads to thinking that as long as the child has his mother, all other relationships may constantly change. Therefor, the instability of day care arrangements has not been especially emphasized in the Finnish day-care debate. The results of this study showed, however, that a change of day-care arrangements is the most common life event experienced by the child. There were cases with up to 15 different caretakers and 6.5 % of the children had experienced 10 or more changes of these arrangements. Moreover, a change of school belongs to the events which have not been treated from the viewpoint of instability.

Third, there are events the frequency of which it is easy to estimate, e.g. the death of a grandparent or the birth of a sibling, but for

which no former data exist. Although Study B gives new data on these events, the results are not very interesting in themselves. They merely reflect the normal course of life in that most siblings are born when the child is still young, or that the older the child is, the more of his grandparents die. The importance of these events lies more in that they form part of the life change indexes.

In all, the results of Study B concerning the occurrence of single events are clearly descriptive. They show the changes an average child, living in a town, may be expected to encounter. The results concerning the occurrence of the indexes of life change frequency and weighted life change also describe the child's environment. They fill in a gap in our knowledge concerning the circumstances in which Finnish children live. On the basis of both types of results it may be stated that at least some children encounter surprisingly many changes, often of such a nature that social measures might prevent their occurrence. Other changes are such that the parents might prevent them. In general, more stress should be laid on the concept of a harmonious environment for the child. Both in decisions in the area of social policy and in families, the child should be the criterion against which the measures are compared. For instance, in deciding whether or not a child should continue in communal day care, the answer should be positive if it is best for the child. It should not be negative only because the parent's income has suddenly risen slightly above the limit for having the child in care.

One of the most important findings of this study is that concerning the relation of the age of the mother and life changes. It shows that the children of young parents are at risk because the family inevitably encounters many changes. Some of the changes are due to structural factors: young people have not yet settled, but have to find a profession and, later, a job. During this process, they often change community and residence, and, as a consequence, the child has to change day-care caretaker. The need to change residence is further enhanced by the fact that a small family gets state supported loans only for a small residence, and, as the family grows, it has to move to a bigger home. Thus, for many of these changes, preventive social measures are needed. In addition, however, the young parents' immaturity may be the reason for some of the changes. This, again, requires preventive and suppor-

ting guidance directed towards these groups.

In assessing the validity, reliability and generalizability of the results, several factors should be considered. There may be weaknesses in what events are chosen to represent all possible life events, in how the data are collected, or in what time they cover.

A central question is which events are to be included in the study. This question is especially critical in forming indexes of abundant change. In this study, the events were chosen after lengthy discussions with child guidance workers, as well as on the basis of a review of the literature. Therefore, the events would seem to cover the most common changes a Finnish child may encounter. However, the instability of the parents' working conditions, including unemployment, was for instance, not included in the measures. In the future, a refinement of the life events list should be made, especially with reference to subgroups, e.g. children living in the countryside.

As a final comment on the occurrence of events in the sample it should be noted that the concept of nonevent, introduced by Gersten et al. (1974) is important. It refers to those positive events which were expected, but did not occur, or those negative events which were avoided. In future studies, these events should also be covered.

In assessing the question of how to collect the data concerning the occurrence of events, possible drawbacks of the questionnaire method should be taken into account. Sarason, Monchaux & Hunt (1975) mention that less educated people at least have difficulties in filling out life event questionnaires. Here, however, the questionnaire required no writing, only an indicating that some event had occurred. This hardly posed any problems. However, the subjects may have omitted some events on purpose or by mistake. An interview with some of the subjects (see Studies C and D) made a partial check of this problem possible. It turned out that very few events were omitted. Sometimes the parents had not mentioned a change of caretaker because she had been employed for a very short time. In one case, the mother mentioned only at the end of the interview that she had another child, who turned out to be mentally retarded. It is possible, however, that some events were mentioned neither in the questionnaire nor during the interview.

The life events covered a considerable period, 12 years. Yarrow et al. (1970), for instance, found a correlation of only .39 in reporting early traumata three to 30 years later. Hart, Bax and Jenkins (1978) also found that the mothers did not remember the developmental history of their child. On these grounds it may be asked whether the period covered should be shorter. The results of this study would seem to favour a rather long period. In studying the relation of the age of the mother with different life event scores, for instance, the relation was considerably stronger with both the total number of events and events during the preschool years than with events during the previous year. This is partly explained by a larger variation of scores the longer the period covered.

The sample consisted of 600 families with children from ordinary classes. In comparing the results with former life event studies, it should be rememebered that the latter were often carried out in clinical populations. Minter & Kimball (1978) have shown that a more restricted group yields weaker relations than a more heterogenous group in life event research as well. Thus, the relationship between different variables in this study are underestimates of the real correlations. The addition of different deviant groups would certainly increase the frequency of occurrence of many events.

In interpreting the incidence of single events it should be observed that the group in question was quite small. This kind of data is usually obtained in epidemiological studies with thousands of subjects. Thus, the results of this study are only indicative. However, the correspondence with former studies on the incidence of single events was in most cases quite good. In the future, more epidemiological data from different subgroups could be gathered on the basis of the results of this study.

In interpreting the results it should be observed that they reflect the situation existing more than ten years ago in the younger age groups. The results for the number of day-care changes, for instance, may be different today compared to what it was at that time or fifteen years ago. To avoid this in later studies, enough respondents from different age groups should be used. More generally, it would be interesting to study different cohorts, for instance five years apart, and compare the number of changes when the children were two years old, for instance.

Perhaps the most usual comment concerning the method of life event studies is that a truly prospective design should be used instead of retrospective research. This also applies to Finnish children. Using a representative and sufficiently large sample of all Finnish children and preferably covering the whole period of childhood cohortal changes may also be analyzed. Such a sample would also allow a study of differences between children from cities and the countryside. Thus, one of the main restrictions of this study could be overcome.

# 4. STUDY C. THE IMPACT OF LIFE CHANGES ON THE CHILD

## 4.1. Introduction

The interest in life events and abundant change is based on the assumption that, generally, their impact is harmful. Therefore, there has been a tendency to study the effects on the child of such events as a divorce, a move, or a death in the family. For adults, there are also several studies on the impact of abundant change, whereas children have been less studied in this respect.

The aim of Study C is to analyze the child's reaction to single life events as well as his reactions to abundant change. Accordingly, Study C consists of two parts. Part I, especially, which concerns the impact of single changes, relies on a "softer" and more qualitative method than studies A and B. A glance at the literature concerning similar

studies reveals that this was often the case formerly as well. This is understandable as many of the events are of rather an intimate nature. People do not readily answer long questionnaires concerning a serious illness, the death of the spouse, or a divorce, for instance, and, if they do, the answers may be superficial and the most crucial features of the event are lost. In addition, many life events are of such a nature that a researcher has little experience of them and is therefore unable to compile a questionnaire concerning them. Therefore, a softer approach has to be adapted in studying the effect of single life changes. Nevertheless, it should be added that although most studies concerning abundant change have employed questionnaires, there are exceptions. Especially Brown and his colleagues (Brown & Birley 1968, Brown et al. 1974) have spoken in favour of the interview in studying life changes.

The main data gathering method of this study is a semi-structured interview. As it has been partly developed by the author to suit this study, it will be described in detail below.

## 4.2. The thematic interview

The interview used in data gathering in Study C (and Study D) consisted of lengthy taped discussions with the subjects. It is termed thematic to stress the fact that it centres on certain central themes which guide the questions. The important thing is not the precise formulation of a question but the conveyance of its meaning to the interviewee. The method is intended to tap the meaning given to some phenomena instead of applying the frame of reference of the researcher to the phenomena of the "real" world. The method is much more flexible than more structured forms of interviewing, not to mention questionnaires, and it is especially suited to complex phenomena to which answers cannot be easily expressed by a single yes or no. Therefore, life events and their impact are quite a suitable target for this method.

The thematic interview consists of the following stages:

1. Compiling of an interview guide. The first phase of the thematic interview consists of the compilation of an interview guide on the basis of the literature in the area as well as through an acquaintance with the phenomenon in question. The interview guide merely gives the outlines of the interview. It consists of the main topics to be covered.

2. Interviewing. The interview situation should be as relaxed an interaction as possible between the interviewer and the interviewee. It should resemble a discussion, with the exception that the interviewer talks considerably less than the subject. The order of the themes to be treated as well as the order of the questions are free, although the ordering follows the interview guide in most cases. Often, the interviewee suggests some theme and gives the answers without the interviewer having to ask the question.

3. Transcription of the interview. The third stage of the thematic interview consists of a transcription of the gathered material. This may be a word for word transcription, but this is both very cumbersome and very expensive. A second method is to transcribe only the most pertinent material, according to rules set up before the transcription. The interviews may be transcribed theme by theme, for instance, on to small cards, one card for every theme and every subject.

4. Ratings of the interviews. The fourth stage involves a rating of the transcribed answers, which implies forming variables of the material. The forming of variables is guided by theory and hypotheses and is, of course, already partly determined by the interview guide. In practice, this step implies a classification of the answers of every interviewee so that variable classes are formed.

5. Analysing and reporting of the interviews. The material compiled by the thematic interview may be used in traditional quantitative analyses, if this is allowed by the number of subjects and the distribution of the variables. In addition, quotations from the interviews may be used in reporting.

The interview method, here termed "thematic", is not a new one. It derives from the focused interview, developed by Merton et al. (1956) (for a detailed description of the thematic interview and its relations to other forms of data gathering as well as its methodological sources, see Hirsjärvi & Hurme 1980). This type of method has been used formerly in child rearing research. Sears, Maccoby and Levin (1957),

for instance, state that their method was "somewhere between the flexible, unstandardized 'depth' interview, and the completely structured interview with a long list of multiple choice items" (p. 19). The same method is reported by Sears et al. (1965), consisting of taping the interviews and then applying rating scales used by judges to form variables. Takala et al. (1960), for instance, also used rating scales for interview answers. This sort of semistructured material has also been used in other child rearing studies (e.g. Brown & Rutter 1966, Krüger 1969, Kälvesten & Mehldal 1972, Aggression Risk Groups 1975, Trudewind 1975).

## 4.3. Part I: The impact of single life events

### 4.3.1. Problems

The problem concerning the impact of life changes was treated on quite a general level, in Section 1.2., without reference to specific events. It was stated that most events influence the child because of their collative properties like surprisingness and novelty. The results of Study A showed, however, that even a very rough assessment of the readjustment required by each event reveals big differences among the events. There are serious events and events which have hardly any impact.

The specialists' ratings show, however, only one aspect of life changes and their impact. They concern an average child in average conditions and there are many changes which the experts do not encounter at all, for instance the mother returning from the hospital with a new baby. Neither do they cover the child starting kindergarten nor changing school. These are not changes which are a common reason for referral to child guidance clinics. Reports on such situations may be obtained from within the family only.

The aim of Part I of Study C is to describe the child's reaction to single life events. The approach is soft and qualitative rather than quantitative and therefore no hypotheses are stated or tested. The variation in reactions is revealed in excerpts from the interviews with the mothers. The comparison of the impact of different events is

partly made possible through an assessment of the overall effect of each event. The validity of the data is also inferred by comparison with former studies which are presented in connection with the results for each event.

### 4.3.2. Method

Data concerning the impact of each single life event were collected by using the thematic interview, the main features of which have been presented above.

The interview also covered Study D. The whole interview guide is presented in Appendix 4. The problems of Study C were covered by showing the mothers the questionnaire which they had filled in for Study B, containing reports on which events the child had experienced (see page 48). The interviewer asked the mother about the effects of each event separately.

The author interviewed 60 of the 111 mothers, and two psychologists the remainder. One of them had taken part in the same interview training course as the author, and the other was introduced to the task by sample interviews, acquaintance with the interview guide and literature about interviewing.

The interviewing took place during February-May 1978. The mother was contacted personally, either by telephone or at the door, and reference was made to the questionnaire filled in by her one year earlier. In this connection, an appointment was made.

Most mothers were interviewed at home, but, if the mother wished, the interview was arranged at the university or, in some cases, at the mother's place of work. The interviews were tape recorded and lasted from 1.5 to 4 hours, an average being about two hours.

The interviews were transcribed onto small cards covering 47 themes altogether. All the interview material was taken into account. Thus, for instance, the card 'characteristics of the child' contained both the mother's answers to this question and her comments in connection with other questions. The transcriber also rated some aspects of the mother's behaviour (variables 534-543 in Appendix 9). The cards of each mother were indexed according to the individual and according to each of the 47 themes.

In order to form variables, the interviews were rated by the author. The variables (544-670) were formed by reading the cards pertaining to each theme at time and trying to form the variable classes. The same procedure was repeated several times for most themes. The next step consisted of classifying the answers into the classes. For each life event, a general impact rating was performed. The variables and their classes are given in Appendix 9.

To assess the reliability of the interview, the answers of the 34 first subjects were rated by a second interviewer who was acquainted with the list of variables. The reliability was quite good, for dichotomous items the average correlation being .80 (S-B corrected .89) and for items with more than two classes (from three to eight classes) the average reliability being .88. Radke-Yarrow et al. (1968) reported that the reliability of interview ratings varied between .30 and .90, with an average of .70. This is in line with the results of this study.

### 4.3.3. Subjects

The sample consisted of families drawn from among the respondents in Study B in such a way that they represented the whole range of scores on the weighted life change index. Thus, the results concern children up to the age of 12-13, living in a town.

In all, 120 families were drawn. Four families refused to participate and another five were dropped because of too few data. Thus, there were 111 respondents in all. - The percentage of participation in the interviews, about 96 %, must be considered very high and the sample is therefore quite representative.

### 4.3.4. Results

The results concerning the impact of the single life events are reported below. The events are grouped under some general headings to enable a comparison with former studies. Because of the variation, and often a small number of cases which had experienced each event,

much of the reporting is based on excerpts from the interviews.

All the names have been changed to make identification impossible.

## Death

There is great agreement among adults that the death of a parent or a close relative is the most serious event a child may encounter. This assumption is based on the adult's own experience. Paradoxically, despite the fact that death happens to every one of us and is therefore the most predictable life change, adults are shocked by its unexpected timing and finality. A very young child does not expect death even in the case of very old or very sick people and is therefore not afraid of death or threatened by it. Wolff (1971) states that children under five are not even interested in death and it is after the age of eight that the child first starts to understand its ultimate character (Birtchnell 1969). Before that age, death is something incomprehensible, which the child tries to explain by using his own explanations. One way to explain a phenomenon is to compare it with similar occurrences. Therefore, the child may equate death and sleep and think that the deceased will wake up again after some time.

There was only one case of the death of the mother in the sample. The boy was only one at the time and had been taken care of by his grandmother ever since. There were six cases of the death of the father and two cases each of the death of a sibling and the death of a close friend.

The small number of deaths of parents, siblings and friends makes it impossible to present tabulated data on the mother's opinion of their impact. The excerpts from the interviews confirm, however, the statement of Furman (1974) that death influences the child in almost every case. In the younger age group, the child's concrete thinking modifies his reactions.

The following exerpt from an interview with the mother of Mikko shows the concrete nature of his thinking. He was four when his grandfather died.

- Did he understand it?
- Well, he was so small then. My sister has a boy who is six months older than Mikko. At the grave they were discussing the possiblity of putting a ladder there for the grandfather to climb.

As has been claimed (Birchnell 1969), however, also small children may mourn, as the following answer shows.

- Jari was two when his grandfather died. He died during the night and Jari did not mention a word about him after this to us. We were told that he shouted through the window to passers-by in the street "Hey, where is my grandfather". Following that he started to wet his bed and this lasted for two years. He did not want to hear about the topic and it is only now that we have been able to discuss it with him.

Despite the fact that the child does not comprehend the meaning of death, he may show behavioural problems in connection with it, as Glick et al.'s study (1974) shows. This is also confirmed by the above excerpt. The child may react to changes caused by illness in the person prior to death. Adults may by their very behaviour convey the threath of death to the child, and often the child also gets less attention than usual because the adults are mourning or occupied by practical arrangements in connection with the funeral. It may be that the child reacts more to these changes in the environment than to death itself, as Rutter (1971) observes.

It is therefore not the act of dying itself which affects the child most profoundly. The impact of a death in the family is more long-lasting and depends on the fact that after the death the child has to live without the support and love of one of his parents. It is also because of the lack of this love that the support of other adults is essential, or, as Hägglund (1976) states, it is important to restore security into the child's life.

In some cases the mothers reported that the children were surprisingly strong in connection with the death of their father. This is in line with the results of Glick et al. (1974). The older children especially seem to assume responsibility in the family and even try to support the mother.

Marja in the following excerpt was 12 when her father died.

- Marja was sitting nearby when the call came. It was a tremendous shock for us. He had always been the healthiest member of our family and then there was this infarction. He was only 43 ..., (quite a long monologue on the circumstances of the death followed. The mother showed photographs of her late husband).
- How did Marja react?
- Well, first she cried, and then the doctor said that it is better to mourn and cry, but children take it differently. Marja asked me to mourn when she was at shcool. She did not cry for long. Later, she said "Mummy, in the end we got along very well" and I understood that she had adjusted.

Surprising though it may seem, in some cases death seemed to be a relief for both the child and the rest of the family. This fact was, however, connected more with the personality of the deceased or with his/her preceding illness. Moreover, even if the family situation improves, this does not imply that the child would not mourn.

The following is an excerpt from an interview with the mother of Kari, 11 years at the time of the death of his father.

- Well. I worked during the evenings and so Kari was responsible for his father. Kari could not play freely in the yard because he had to look after him and call the ambulance if necessary. He was ill for about a year with cancer and then he died.
- Did Kari take it very badly?
- Of course. And then there was this at school, this violence.
- Did it affect his reports?
- Yes, certainly. He has never been especially good at school, but after the funeral he changed completely. Now the teacher says he is always willing to answer. It was as if the death had got rid of the whole thing.
- How did it affect your family in general?
- Well, I think the children are freer now. Perhaps he was ill for so long. And he had his way of looking at things. He was so authoritarian, we were always afraid of him. The children are gayer now and Kari has started to talk much more about his own problems.
- Did it affect you financially?
- No, we get quite a good pension.

It seems that the closeness of the relationship with the deceased is the factor which determines the strenght of the reaction. This is also the opinion of the child rearing experts who have rated the death of a close friend as requiring more readjustment than the death of a grandparent (see Study A). The mother of Matti relates the death of his friend:

- They came together from the club, they were both seven then. The father of this boy came to meet them and waited on the other side of the street. The boy started running and hit his head against the car. It was instant brain death ... and then after some hours the heart stopped.
  It was a difficult thing for Matti. I asked whether the boy was badly hurt and Matti said he didn't think so because the boy moved his legs. I think he did not dare to think about death. He tried to run after the boy into the ambulance and was so nervous that he almost wet his pants. It took him at least six months to get over it. The children have not talked much about him but they think about him.

Most of the deaths experienced by the children were, of course, deaths of grandparents. There were 70 of these in the sample. Reactions to these are presented in Table 13.

Table 13. Child's reactions to the death of a grandparent

| Age | Very difficult | | Quite difficult | | Nothing special | | No memory | | Not mentioned | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | f | % | f | % | f | % | f | % | f | % | f | % |
| 0-3 | 1 | 5.6 | 2 | 11.1 | 7 | 38.9 | 6 | 33.3 | 2 | 11.1 | 18 | 100 |
| 4-6 | 0 | 0.0 | 0 | 0.0 | 10 | 83.3 | 2 | 16.7 | 0 | 0.0 | 12 | 100 |
| 7-10 | 3 | 12.5 | 2 | 8.3 | 18 | 75.0 | 0 | 0.0 | 1 | 0.0 | 24 | 100 |
| 11-13 | 1 | 7.1 | 2 | 14.3 | 10 | 71.4 | 0 | 0.0 | 1 | 0.0 | 14 | 100 |
| Total | 5 | 7.1 | 6 | 8.6 | 46 | 65.7 | 9 | 12.9 | 4 | 5.7 | 70 | 100 |

Table 13 shows that about 16 % of the children had found the situation difficult or very difficult. The percentage is somewhat higher in the two upper age groups. This result would seem to correspond to the fact that the younger children do not understand the meaning of

death. The overall result also confirms the finding that the death of a grandparent is not a very serious life event in most cases. The interviews suggest that the closer the relationship, the more serious the effect. This especially concerns children over seven.

Divorce

A child's world is quite restricted. In the case of a divorce, it is further narrowed: one of the most essential parts of it is missing. Daily routines are altered and security is lost. Studies have shown (Wallerstein & Kelly 1975, 1976, Kelly & Wallerstein 1976, Wallerstein 1977) that in two to three-year old children there are already such symptoms as fearfulness and sleeping problems in connection with a divorce. Children under five do not comprehend the nature of divorce (Wallerstein & Kelly 1975), but, as in the case of death, the child may think that the absent parent is angry with him, or even that he himself by his behaviour has caused the parent to leave. Therefore, the attitude and the behaviour of the parents is important. Wallerstein (1977) has shown that the re-establishment of caretaking, reasonable routines, and adequate parenting by the custodial parent are factors which differentiate children who have improved after a divorce from those who have fared less well.

There were only 13 cases of divorce in the sample. In five of these cases, the mothers indicated that the impact on the child had been very negative or negative, in four cases the mother had observed nothing special and in four cases the child had reacted positively to divorce.

It is interesting to note that in seven of the thirteen cases the mother explicitely mentioned that abuse of alcohol was the main reason for the divorce. This is quite in line with results from other Finnish studies. Sihvo (1977) found that drug abuse is the legal reason for divorce in 8-10 % of the cases and has remained so since the fifties. This figure is, however, too low and does not show in how may cases there have been problems with alcohol. Tani (1971) found that abuse was the real reason for the divorce in 44 % of the cases and Elovainio (1977) found that 46 % of divorced women reported that there had been many problems with alcohol in the marriage. It is interesting to note

that only 25 % of their husbands reported this to be a problem. The following example shows the fearfulness of a boy, who was four years old at the time of the divorce.

- You said that you divorced because your husband abused alcohol.
- Yes ... when Matti was born he slowly started to drink. Until then it had happened only once a week but now it increased so quickly that the factory nurse wondered about it.
- Was there any reason for the increase?
- Well, I don't really know. It all happened in two years, perhaps three.
- And what about after the divorce, has he visited the family?
- No, not really. He has been receiving a sickness pension because of drinking for almost ten years now.
- How did Matti react to the divorce?
- Well, he was relieved that he didn't have to be afraid. He was afraid of visits later, too. Now he doesn't care whether he comes or not.

The mother said that the boy had been very much afraid of the father when he was drinking and for the first year the child had hidden in the cupboard when the father came to see the family.

A common opinion is that the parents should restrain themselves from divorcing because of the children. However, Rutter's (1971) studies point to the harmful effects of an unhappy atmosphere in the family rather than to the effects of the act of divorcing. In some cases the divorce may, in fact, be a relief for the child, as Munk Jørgensen (1975) has shown. In the case of older children, they themselves may express a wish that the parents divorce.

- At least he manages better at the school now. We have had a good time with the children. They were of that opinion... you know, there were difficulties with alcohol... and there is no problem with their father... they visit him when he is sober. He is not supposed to drink then.
- How did Tapani take it?
- Very well. You know, some have problems but we have a good time with the children. It was so stressing for everybody. And at school... I talked with the teacher and Tapani was allowed to repeat a year. He is so very sensitive, he had terrible headaches and could not sleep... and he could not concentrate at school. Now he takes school very seriously and gets better reports.

In talking with the mothers, the extra burden put on them could be felt in many cases. These mothers were especially afraid of their children reaching their teens and they also seemed eager to discuss their problems. In some cases, there were real problems with the youngsters, in others the mothers showed an extraordinary strength. That the situation could improve is shown by the following excerpt.

- Our divorce was quite dramatic. It was difficult for me not to quarrel and I would say that it influenced Liisa. During her two first years at school (the divorce took place during the first year) she was crying and after the divorce she had bad dreams. When I got someone to take care of her during the evenings, she would suddenly wake up. During the third class, when she changed school and my new husband came into the family, she changed completely and her reports jumped up two numbers. Now we have very good relations with her. I have discussed the matter with her and she is of the opinion that the decision was best for her, too.

There were only three remarriages of the mother and three of the father in the sample. In all cases, the remarriage seemed to have been accepted, although there may have been some problems at first. This is exemplified by the following case.

- You married again when she was 10.
- Well, it was okay as long as he didn't live here. Then she told us what we should have been like before. We have been married for three years now... well, let's say that things have been alright for a year. It is clearly some sort of jealousy. For instance when we were sitting beside each other. We tried to talk a lot with her about all this but it didn't help. But now it's okay.

Hospitalization and illness

For a very young child, the hospitalization of a parent or of himself implies a separation in the same way as the death of a parent or a divorce. The hospitalization of the child means, firstly, that he is separated from his parents and has to live in a strange environment and, secondly, he is usually suffering pain and the treatment involves painful moments. As in the case of a death or a divorce, the child may blame himself and think that his parents are punishing him and have therefore sent him to the hospital.

There are only a few studies on the impact of a hospitalization on the child. Ylppö et al.'s (1956) results showed that children between 2.5 and 3.5 exhibited negative behaviour in hospital. Perhaps the best study in the area is one by Prugh et al. (1953) (see also Prugh & Eckhart 1975). The authors found that all of the 200 children of their sample showed at least minimal reactions to hospitalization. On the other hand, Heikkola (1973) found that four-year-olds adjusted well to a hospital setting. The design of her study may be criticized, however. Rajanti's (1967) results point to the possibility that parental behaviour is a factor which largely modifies the child's reactions to hospitalization.

Table 14 shows the child's reactions to the hospitalization.

Table 14. Child's reactions to hospitalization

| | Reaction | | | | | | |
|---|---|---|---|---|---|---|---|
| | Very negative | Quite negative | Some reactions | Nothing special | Liked it, fun | Not mentioned | Total |
| f | 3 | 6 | 6 | 11 | 3 | 2 | 31 |
| % | 9.7 | 19.4 | 19.4 | 35.5 | 9.7 | 6.5 | 100 |

Table 14 shows that about one third of the children experienced the hospitalization as quite negative or negative. This corresponds quite well to the data of Ylppö et al. (1956).

It is quite difficult to separate the child's reactions to illness from his reactions to hospitalization, as Prugh and Eckhardt (1975) observe. Robertson (1970) divides the impact into a traumatic part, related to painful medical examinations and operations, and a deprivational part, due to separation from the mother. Because of the child's inability to understand that the mother will return, children under four are especially vulnerable to a hospital stay.

There seem to be only occasional references to the reactions of the child to illness and hospitalization of the parents. Anthony (1970), for instance, states that an illness of the mother disrupts the whole family pattern. Table 15 shows the child's reactions to the mother's hospitalization.

Table 15. Child's reaction to the hospitalization of the mother

| | Reaction | | | | |
|---|---|---|---|---|---|
| | Very negative | Quote negative | Nothing special | Not mentioned | Total |
| f | 3 | 11 | 27 | 8 | 48 |
| % | 6.3 | 22.9 | 56.3 | 16.7 | 100 |

In the view of the mother, one third of the children again reacted quite negatively or negatively to her hospitalization. The interviews pointed to the fact that the youngest and oldest children reacted less negatively to this event, but the number of cases was too small to allow definite conclusions. It is also clear that the child's reactions depend quite heavily on the nature of the mother's illness. In three cases with very serious reactions the illness was also serious.

There were 27 hospitalizations of the fathers. Eight were hospitalized for mental reasons, often for the abuse of alcohol. In four of these eight cases, the mother reported very serious reactions on the part of the child. In four of the nineteen cases with physical illness, the child reacted adversely. It may be, however, that the abuse of alcohol had led to bitterness in the mother and she therefore overemphasised the negative consequences on the child.

## Mobility

An average parent nowadays is probably aware of the fact that a divorce may affect the child. The same parent, however, probably does not consider a move as a change which might affect the child. For the child, a move is exciting rather than threatening. Of course, he may lose his best friend, but the child's ability to adjust to new circumstances is usually so good that he will manage very well.

The results of studies on the impact of a move are contradictory (for a review, see Hurme 1978b). There are many studies in which no differences have been found between movers and non-movers (e.g. Barrett

& Noble 1973, Kantor 1965). In some studies the results vary according to social class, and in others, some short-term influences have been found (e.g. Otto 1968, Schaller 1972a, b, 1974a, b). Schaller states at the end of his quite comprehensive review (1972b) that when short term effects have been found, they have usually been negative. In his view, the results are more inconsistent when it comes to long-term effects or more serious effects. Therefore, one single move usually has no serious implications, whereas a series of moves may restrain the child from forming close personal contacts because they are soon broken.

In the sample, there were 54 cases of a change of community. Thus, about half of the children had experienced at least one change of community. The child's reaction to this event is presented in Table 16.

Table 16. Child's reaction to a change of community

| | Reaction | | | | | |
|---|---|---|---|---|---|---|
| | Very negative | Quite negative | Normal | Quite positive | Not mentioned | Total |
| f | 3 | 9 | 24 | 10 | 8 | 54 |
| % | 5.6 | 16.7 | 44.4 | 18.5 | 14.8 | 100 |

Table 16 shows that twelve of the moves (22%) had caused some trouble at least. Otto (1968) reports that the change of a community had been a trauma in 28 % of his cases. Mothers had mostly observed nothing special and in 10 cases the move had been quite a positive experience. Although most changes of community had taken place in the youngest age group, the mothers mentioned no harmful effects in these cases.

The following case is one example of quite a serious impact of the change of community on the child.

- How did Kari react to the change of community?
- Well, it was quite a shock for him. He is very sensitive, you know, and it was difficult for him when he did not immediately get new

friends. It took almost a year before he got friends. Also, the other children teased him in the yard.

- Did he have any symptoms?
- Well, this is my own idea, but I think that the excema he got was because of the tension. He was really afraid of school. It took two years and then it disappeared and he got friends.
- How did you take the change?
- Well, I have always liked moving.

There were 138 cases of change of residence in the sample. Some children had moved several times, and, on average, every child had experienced 1.2 changes of residence. The mother's assessment of the impact of the change of residence is presented in Table 17.

Table 17. Impact of a change of residence on the child

| | Consequence | | | | | | |
|---|---|---|---|---|---|---|---|
| | Very negative | Quite negative | Normal | Quite positive | Very positive | Not mentioned | Total |
| f | 3 | 23 | 78 | 14 | 3 | 15 | 138 |
| % | 2.2 | 16.6 | 57.2 | 10.1 | 2.2 | 10.9 | 100 |

In about 18 % of the moves, there had been some problems and about 12 % had experienced the change as quite or very positive. Mostly, however, the move did not affect the child. This confirms the low life change ratings of this event in Study A as well as the results from former studies presented above.

A change of school is often an unavoidable consequence of a move. In many cases it is therefore difficult to assess whether the child has reacted to the move or to the change of school. One of the very few studies in the area, that by Barrett and Noble (1973), reports that about 25 % of the mothers of their sample assessed that the child had found the change of school difficult. The problem is bigger, the larger the new school and the new class, and the more new teachers the child gets.

Table 18 presents the mother's assessment of the change of school on her child.

Table 18. Impact of change of school on the child

| | Consequence | | | | | | |
|---|---|---|---|---|---|---|---|
| | Very negative | Quite negative | Nothing special | Quite positive | Very positive | Not mentioned | Total |
| f | 1 | 18 | 51 | 11 | 1 | 5 | 87 |
| % | 1.1 | 20.6 | 58.6 | 12.6 | 1.1 | 5.7 | 100 |

In most cases, a change of school had had no special effects but it should be observed that more than twenty one per cent of the children had encountered at least some difficulties. This is quite in line with the 25 % reported by Barrett and Noble (1973).

Maternal employment and day-care

Mother starting work is such a common event in Finland that it probably would not be included as a life change by most people. From the child's point of view it is important, however. It is not only the first day of employment which may be hard for the child, but the fact that he is separated from his mother daily. As the child's conception of time differs from that of adults, such a separation at first has the same meaning as, for instance, a divorce. In both cases, the child is afraid than the mother will never again return.

A second factor which may affect the child in connection with maternal employment is the fact that some form of substitute care has to be arranged. The least that can be said about entering a nursery or a kindergarten is that it implies a clear change for a child who has been reared at home. Children of working mothers also usually have to go through a series of changing day-care arrangements. Moore's (1963,1975) studies on this problem showed that children who had had many day care arrangements were more dependent on their mothers, more

nervous, insecure, etc. than children with fewer changes. The results must be interpreted with care, however, as it may be that some factor in the mother causes these features in the child, and, at the same time, makes the mothers change day-care arrangements.

The mothers' opinions on each day-care arrangement and its consequences for the child was sought in the interview. Table 19 shows how many day-care periods of different types there were in the sample, as well as their impact.

Table 19. Mother's opinion concerning the impact of different types of day-care arrangements

| Child's reactions | Type of arrangement: Nursery, kindergarten | | Other family | | Maid | | Mother | | Relative | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | f | % | f | % | f | % | f | % | f | % | f | % |
| No negative reactions | 42 | 79.2 | 42 | 75.0 | 79 | 80.6 | 77 | 100.0 | 34 | 100.0 | 274 | 86.1 |
| Negative reactions | 11 | 20.8 | 14 | 25.0 | 19 | 19.4 | 0 | 0.0 | 0 | 0.0 | 44 | 13.9 |
| | 53 | 100 % | 56 | 100 % | 98 | 100 % | 77 | 100 % | 34 | 100 % | 318 | 100 % |

As Table 19 shows, the mothers did not express discontent with their own caretaking or that of relatives. In these cases, the estimate may be somewhat biased, however. For the other forms of day-care, the mothers' opinions are quite similar, with about 20-25 % of the periods having caused some trouble. For all periods together, the corresponding percentage was 13.9. It is interesting to note that there had often been problems with other families taking care of the children. On the basis of the interviews it seems that the mother has fewer possibilities of interfering with the life of these families than with a maid at home or even with care in a nursery or a kindergarten.

The data in Table 19 were based on the author's ratings of each answer. Table 20 contains data based on independent ratings from the complete interviews made by the transcribers. Table 20 shows the mother's general contentment with the day-care setting, independent of its form.

Table 20. Mother's contentment with actual day-care arrangements

| | f | % |
|---|---|---|
| Very discontented: continual problems | 2 | 2.0 |
| Quite discontented: some arrangements with which not contented | 11 | 11.2 |
| Nothing special | 24 | 24.5 |
| Quite contented: mentions this | 43 | 43.9 |
| Very contented: clearly mentioned | 18 | 18.4 |
| | 98 | 100 % |

The results from both Table 19 and Table 20 show about the same percentage of discontentment with all periods together, about 13 %. Thus, in most cases, day-care does not in itself constitute a major stress to the child but the stress may result from too many changes.

Cases with different day-care arrangements. To illustrate the variation of day-care arrangements in the sample, some cases are presented below They are chosen to exemplify both stable and unstable day-care conditions.

Case 256. Anna was one when her mothers started to work, and first went to a nursery, then to a kindergarten from three to five, and was then with her brother during the summer. When the brother started school in the autumn, she stayed alone at home. Sometimes the janitor told her to put more clothes on but, according to the mother, everything went well. She was not much alone because there were several other children in the house.

Case 154. The mother took care of Kirsti for the first year and a half, then the grandmother between 1 1/2 and 2. Kirsti began bedwetting at night, because of the change of maid according to the mother. Then Kirsti was in several families. During one summer the family had a maid and then a period in a family again followed. This family was very important for Kirsti. She did not even want to come home in the afternoon. Before beginning school she was once again taken care of by her mother.

Case 140. The mother took care of Mikko for the first six months. Then he was in a nursery and a kindergarten until the age of four, but the mother did not like it, because he was not taught anything, and only received the most basic care. She also had difficulties in taking him there every morning. Then for two years her brother's wife took care of Mikko. This seemed to be quite a good solution. Then, for one year Mikko was taken care of by his parents, who worked in shifts and did not even see each other. Mikko was content with the arrangements, however.

Case 305. Anja was taken care of by several maids. The first was the best one, taking care of Anja for three years. Then followed two girls, with one year each. Then one whom the family did not like so much, as, for example, she did not play with Anja. After this Anja went to a woman in the neighbourhood and at last two kindergartens, which she liked.

Case 219. The family lived in the countryside and the mother was a taxi driver. When she worked, the grandmother came (from the other side of the street) to look after the children or sometimes an aunt who lived a few kilometres away. Sometimes the mother took 4-5 children with her in the taxi. The children enjoyed this. When the family moved to Jyväskylä, the mother started working in a factory and asked for a continuous evening shift to be able to be with the children. When the mother left, the older children came home from school, as did the father. They then looked after Jussi.

Case 165. The mother worked 7-10 days per month, beginning when Tiina was three. She did not want to start working immediately after the birth of Tiina, because the family managed without her earnings. She never liked nurseries or kindergartens because they seemed too much like institutions. Tiina was in several families. There were two families which were not good when Tiina was between three and four. She started bedwetting at night and the mornings were difficult. She did not want to stay in substitute care but could not herself say what was wrong. The mother phoned the child guidance clinic and they said that the fault usually lies with the caretaking family. So she changed families but the second was also bad. There were two babies and two children of Tiina's age, so the woman had no time for Tiina. The yard was not planned for children and the older boys teased her. At five, she started in kindergarten but did not dare to go to the toilet, which was shared by boys and girls. The mother took her to the kindergarten every day although she did not like going.

Case 211. For the first year, the mother took care of Kalevi, then the grandmother until he was seven. The mother was very contented, as the child could stay there over night, too.

Birth of sibling

Perhaps the most common life change a child experiences is the birth of a sibling. There is quite a widespread belief that it causes jealousy in the child, but there are almost no studies to support this belief. The study by Legg, Sherick & Wadland (1974) is one of the very few exceptions.

The impact of a birth in the family depends, first, on the age of the child at the moment and, secondly, on the attitude of the parents. It is usually only in a child under five that clear signs of jealousy are seen. Older children have established their position in the family and are able to understand the meaning of the birth of a new family member. Again, the child's reactions largely depend on the parent's ability to explain the situation to the child. If they succeed in this task, the birth of a sibling is an exciting and positive experience.

Table 21 shows the mother's assessment of the impact of the birth of a sibling on children of different age levels.

Table 21. Child's reactions to the birth of a sibling

| | Reaction | | | | | |
|---|---|---|---|---|---|---|
| Age | Very jealous | Quite jealous | Nothing special | Quite happy | Not mentioned | Total |
| 0-2 | 3 | 3 | 12 | 0 | 1 | 19 |
| 3-6 | 6 | 7 | 20 | 0 | 1 | 34 |
| 7-13 | 2 | 1 | 3 | 3 | 0 | 9 |
| f | 11 | 11 | 35 | 3 | 2 | 62 |
| % | 17.7 | 17.7 | 56.5 | 4.8 | 3.2 | 100 % |

As Table 21 shows, in more than half of the cases (56.5 %) there had been no special reactions to the birth of a sibling. In connection with 11 cases (17.7 %), there had been quite strong jealousy. Among the cases were children who wanted to bite, hit or tease the baby, who wanted to move away or to give the baby away, who were aggressive in feeding situations or began wetting or showed eating problems.

### 4.3.5. Evaluation of the results

In evaluating the results of this part of the study, it may be asked whether or not it is possible, or even warranted, to try to state anything in general concerning children's reactions to single life events.

Some main impressions arise on the basis of the interviews. The first is that there is an immense variation of children's reactions to the events. Where one child reacts with distress and shows psychological problems and psychosomatic symptoms, another child seems to cope quite well. A second impression is that the average reactions largely depend on the events. This result is quite in line with the findings of Study A that there is a great difference between the readjustment required by different events, for instance, the death of a parent and a change of residence. Third, the results pointed to the fact that there are typical patterns of child behaviour, independent of the events. One child may get upset by every event and react to them all in a characteristic manner, for instance with stomach pains, or withdrawal, whereas another child shows almost no reactions even to serious events. This result is quite in line with the study by Murphy & Moriarty (1976) concerning patterns of coping specific for a child.

The above factors make it almost impossible to state how an average child reacts to an average life event. The most that can be said is that a child <u>may</u> react with distress to a life change. Therefore, life changes constitute risk factors for the child's development.

Another general impression is that the parent's role is central in connection with the events. The interviewed mothers clearly differed as to the degree of support they were able to give the child in life

event situations. They also differed as to the degree of comprehension of the significance of the event for the child, as well as in explaining the change to him. Many mothers stated, for instance, that they had not talked about a move to the child "because he would not understand it, anyway", or they had not mentioned a planned divorce in order not to upset the child.

For many events, the results correspond quite well to those of former studies. This indicates that the mothers' reports are quite valid. It seems that a semi-structured interview is an adequate method in connection with life events. Here, however, the target of the interview was, perhaps, too broad to allow a sufficiently deep penetration into each separate event. In the future, the method could be used with profit to obtain data concerning children's reactions to less studied events, such as a change of a day-care caretaker, a change of school, or the birth of a sibling.

Future research should be directed towards a longitudinal study of coping patterns typical for the child. The sample should be large enough to allow a variation of events. The study should preferably also include parental measures. In this way it might be possible to state how much of the variation is due to the child, the events and the parents.

## 4.4. Part II: The impact of abundant change

### 4.4.1. Problems and hypotheses

In Section 1.2., the mechanisms behind children's reactions to life events were discussed. It was stated that because of the uncertainty, lack of predictability, novelty, ambiguity, or, in short collative properties, the life events increase the cognitive backlog and its unresolved percepts. A high cognitive backlog has been found to be connected with anxiety, and, in general, abundant change to be connected with, for instance, psychological problems.

The concept of weak self-control is central in relation to abundant change. Pulkkinen (Pitkänen 1973) states that the behaviour of the individual is very persistent because of reinforcement. If the indi-

vidual reacts with anxiety, aggression, or other behavioural problems to thwarting situations, these reactions would be reinforced when many such situations occur and the result would be weak self-control (only the relation of change to self-control is treated here. Factors which might modify this relationship are analyzed in Study D).

On the basis of the analysis in Section 1.2. and above, the following hypotheses may be stated:

Hypothesis 1.

A high degree of life change is connected with weak self-control in the child.

Hypothesis 2.

Children having experienced much life change exhibit more behavioural problems than children having experienced less change.

It should be observed that the two hypotheses are related and concern only slightly different aspects of the same problem.

Hypothesis 3.

There is a U-shaped relation between life change and the dependent variables.

4.4.2. Methods

The data of Part II of Study C were obtained during interviews with the mothers. To obtain comparable data from each mother concerning child behaviour, rating scales were used.

It was stated above that Pulkkinen has developed a two-dimensional system (Pitkänen 1969) for assessing child behaviour and that the behaviour measured by her scale, especially self-control, is highly relevant in connection with abundant change. It was therefore decided to use it in this study as well.

Pulkkinen's scale has been used previously by peers and teachers (Pitkänen 1969, Aggression Risk Groups 1975). It has proved very valid and, because of its easy administration, it should also be useful when used by the mothers.

Pulkkinen's model is presented in Section 1.2.4. It should be remembered that is consists of two main dimensions: the degree of self-control and the degree of activity.

The wording of the items of the ratings scale has varied slightly, depending on the subjects. In Pitkänen (1973), 10 items were used, in Aggression Risk Groups (1975) 9. These nine items were slightly modified for this study. The items are as follows:

1. Peaceful, compliant and able to avoid conflict
2. Lively, always busy and playing with other children
3. Fearful when with others, target of teasing, but incapable of defending himself
4. Physically inactive, withdraws from company, quiet
5. Reliable, keeps his promises, peaceable even in surprising situations
6. Short attention span and has difficulties in concentrating, labile mood
7. Tries to solve difficult situations reasonably and on own initiative, negotiates and tries to be fair
8. Sometimes teases others, is often involved in fights
9. Defends himself but does not attack without reason

The mothers were asked to indicate on a five-point scale to what extent each description was characteristic of the child.

For adults, a clear relationship with indices of psychological problems with life events has been found in several studies. Although Pulkkinen's scale measures a broad range of behaviour, it does not cover, for instance, psychosomatic symptoms or common behavioural problems like bedwetting or nailbiting, usually considered to show general maladjustment and distress. For this reason, items from former studies (Leighton 1972, Kälvesten & Mehldal 1972, MacFarlane et al. 1956, Müller 1976) were collected to form a rating instrument

presented to the mother in connection with the interview. The scale was constructed to measure symptoms both during the year preceding the interview and symptoms prior to that. The items were as follows:

1. Has your child had sleeping difficulties?
2. Has your child had allergies or asthma?
3. Has your child often had nightmares?
4. Has your child stuttered a lot?
5. Has your child had any serious illnesses?
6. Has your child seemed especially tired without some special reason?
7. Has your child had difficulties in concentrating?
8. Has your child had recurring headaches?
9. Has your child suffered from recurring bouts of viral infections?
10. Has your child had recurring pains in the stomach without any special reason?
11. Have there been several dishes your child has refused to eat?
12. Has your child recurrently been biting his nails?

Has your child sometimes showed any of the following forms of behaviour?

13. Bedwetting
14. Thumbsucking
15. Crying
16. Timidity
17. Aggression
18. Tension

The mothers were requested to indicate a yes or no to each item. Data concerning the occurrence of life events were obtained from the questionnaires filled out by the mothers a year prior to the interview. The children were divided into three groups on the basis of a life change score weighted with ratings in Study A (the events contained in this index are presented in Appendix 2). The groups have been termed small change (S) (a weighted sum smaller than 177 or a frequency of 10 or less), medium change (M) (a weighted sum between 178 and 354 or a frequency of 11 to 17) and high change (H) ( a weighted sum over 354 or a frequency over 18).

In this study, the number of day-care caretakers is used as an index of life change as well.

### 4.4.3. Subjects

The subjects in this part of the study were the same as in Part I, i.e. 120 mothers drawn at random from among the respondents in Study B. In all, 111 mothers gave complete data.

### 4.4.4. Results

#### 4.4.4.1. Self-control and life change

To verify the hypothesis that weak self-control is connected with life change, the correlations of the items of Pulkkinen's scale with life change indexes were studied. The results are presented in Table 22.

Table 22. Correlations between Pulkkinen's scales and indexes of life change

| Variable no. | | 403 Submissive | 404 Active | 405 Anxious | 406 Passive | 407 Strong control | 408 Weak control | 409 Constructive | 410 Aggression | 411 Defensive aggression |
|---|---|---|---|---|---|---|---|---|---|---|
| 119 | Changes in previous year | 11 | -07 | -04 | -13 | 10 | -16 | 11 | -06 | 03 |
| 120 | Changes 0-4 years | -01 | 05 | 01 | -07 | -04 | -07 | 03 | 10 | 02 |
| 116 | Change frequency | 00 | 01 | -06 | -09 | 07 | 08 | 01 | -02 | -14 |
| 361 | Weighted change | 07 | -04 | 03 | -13 | 06 | -08 | 15 | -02 | 01 |
| 5 | Day-care changes | 00 | -02 | -06 | -09 | 05 | 08 | 07 | -04 | -14 |

N=111, r=.18, p <.05, r=.25, p <.01, r=.30, p<.001

It can be seen that all correlations with the life change scales are nonsignificant and there is no logical pattern to be found. The possibility remains, however, that the relationship is nonlinear. Therefore, the means of the scales were analyzed in relations to life change groups based on both the unweighted (U) and weighted (W) scores. The result is shown in Table 23.

Table 23. Means of single items in Pulkkinen's questionnaire for life change groups

| Var. no. | Item | Trait | Type of change | Small change | Medium change | High change | Significance |
|---|---|---|---|---|---|---|---|
| 403 | Peaceful, compliant and able to avoid conflict | Submis-sive | U | 3.2 | 3.3 | 3.2 | n.s. |
| | | | W | 3.1 | 3.3 | 3.2 | n.s. |
| 404 | Lively, always busy and playing with other children | Active | U | 3.7 | 3.6 | 3.7 | n.s. |
| | | | W | 3.8 | 3.4 | 4.2 | t2,3=2.27/37 p<.05 |
| 405 | Fearful when with others, target of teasing but incapable of defending himself | Anxious | U | 1.6 | 1.6 | 1.7 | n.s. |
| | | | W | 1.5 | 1.7 | 1.6 | n.s. |
| 406 | Physically inactive, withdrawn, quiet | Passive | U | 1.6 | 1.3 | 1.4 | n.s. |
| | | | W | 1.7 | 1.4 | 1.2 | t1,3=2.55/56 p<.05 |
| 407 | Reliable, keeps to his promises, peaceable even in surprising situations | Strong control | U | 3.7 | 3.8 | 3.8 | n.s. |
| | | | W | 3.6 | 3.8 | 3.8 | n.s. |
| 408 | Has short attention span and difficulties in concentrating, labile mood | Weak control | U | 2.0 | 1.8 | 2.3 | n.s. |
| | | | W | 2.1 | 1.9 | 2.1 | n.s. |

(continues)

Table 23. (continued)

| Var. no. | Item | Trait | Type of change | Small change | Medium change | High change | Significance |
|---|---|---|---|---|---|---|---|
| 409 | Tries to solve difficult situations reasonably and on own initiative, negotiates and tries to be fair | Constructive | U | 3.4 | 3.4 | 3.6 | n.s. |
| | | | W | 3.4 | 3.4 | 3.8 | n.s. |
| 410 | Sometimes teases others, is often involved in fights | Aggression | U | 1.6 | 1.7 | 1.5 | n.s. |
| | | | W | 1.5 | 1.6 | 1.6 | n.s. |
| 411 | Defends himself but does not attack without a reason | Defensive aggression | U | 3.8 | 3.7 | 3.4 | n.s. |
| | | | W | 3.6 | 3.6 | 3.7 | n.s. |

It can be seen that only two of the scales are significantly related to change. The children who had experienced serious changes are rated as more active than those experiencing less serious change. The item measuring weak self-control has the highest mean in the group with high change, but the differences are non-significant. An inspection of the means does not therefore lend support to the hypothesis that abundant change is related to weak self-control.

It is, however, possible that a combination of different aspects of weak self-control (i.e. anxiety and aggression) accentuates the differences. Therefore, an attempt was made to combine the scales by factor analysis. The factorization was performed after a dichotomization of the somewhat skewed distributions of scores. A three-factor varimax solution led to a clearly identifiable second-order factor of weak self-control, and this solution was therefore chosen for further

analysis. The total factor solution is presented in Table 24.

Table 24. Orthogonally rotated second-order factors of Pulkkinen's scale

| Trait | Item | Loadings | | | |
|---|---|---|---|---|---|
| | | I | II | III | $h^2$ |
| 1. Submissive | Peaceful, compliant and able to avoid conflict | .55 | .17 | -.16 | .35 |
| 2. Active | Lively, always busy and playing with other children | -.17 | -.62 | .00 | .41 |
| 3. Anxious | Fearful when with others, target of teasing, but incapable of defending himself | .06 | .13 | .41 | .19 |
| 4. Passive | Physically inactive, withdraws from company, quiet | -.03 | .68 | -.13 | .48 |
| 5. Strong self-control | Reliable, keeps his promises, peaceable even in surprising situations | .60 | .22 | -.13 | .43 |
| 6. Weak self-control | Short attention span and has difficulties in concetrating, labile mood | -.38 | -.22 | .39 | .34 |
| 7. Constructive | Tries to solve difficult situations reasonably and on own initiative, negotiates and tries to be fair | .38 | -.15 | .03 | .17 |

(continues)

Table 24. (continued)

| Trait | Item | Loadings I | II | III | $h^2$ |
|---|---|---|---|---|---|
| 8. Aggressive | Sometimes teases others, is often involved in fights | -.23 | -.18 | .45 | .29 |
| 9. Defensive aggression | Defends himself but does not attack without a reason | .12 | .15 | -.53 | .32 |
| | | 1.05 | 1.07 | .87 | 2.98 |

The factors explain 33.1 % of the total variance. The Eigenvalue of the third factor is somewhat less than 1, recommended by different authors as a rule of thumb for stopping the extraction of factors, but in this case the criterion for coming to an end was a more pragmatic one, the extraction of a weak self-control factor.

In the three-factor varimax rotated solution, the first factor is one of strong self-control, with the highest loading for item 5, 'Reliable, keeps to his promises ... '. The second factor is clearly a bi-polar activity-passivity factor without qualitative denotations, and the third a factor of weak self-control, with high loadings for the scales of aggression, weak self-control and anxiety. - In interpreting the content of the factors it should be remembered that they represent second-order factors of Pulkkinen's original scales.

The correlations of the factors with indexes of life change are presented in Table 25.

Table 25. Correlations of factors of child behaviour with indexes of life change

| Factor of child behaviour | Type of subscale: Unweighted change | Weighted change | Changes 0-4 yrs | Changes last year | Day-care changes |
|---|---|---|---|---|---|
| I Strong self-control | .01 | .20[x] | -.07 | .09 | -.22[x] |
| II Activity-passivity | -.02 | -.07 | -.04 | -.04 | -.21[x] |
| III Weak self-control | .13 | -.02 | .04 | -.03 | .32[xxx] |

An inspection of Table 25 shows that, on average, the correlations are rather low. The factor 'weak self-control' correlates .13 with unweighted change. This correlation is in line with the hypothesis, but it is nonsignificant. Strong self-control, again, is related to a high weighted change score. As the correlation with day-care changes for this factor is negative, this points to strong self-control being connected with rather serious changes. The highest correlation is between the factor 'weak self-control' and day-care changes. When compared with the other indexes of life changes, this results points to a very specific relationship. It seems not to be change in general, not even changes during childhood in general which are connected with a weak self-control, but more specificially, day-care changes.

As it is quite possible that the rather low correlations are due to non-linear relationships between the variables, the means of the factor score were studied in relation to both weighted and unweighted life change. There were no significant differences for the weighted life change score. The results for the unweighted or frequency score are presented in Table 26.

Table 26. Means of factor scores of the second-order factors of Pulkkinen's questionnaire in change frequency groups

| Factor | | Change frequency | | |
|---|---|---|---|---|
| | | Small 0-10 | Medium 11-16 | High 17-47 |
| I Strong self-control | M | 493 | 499 | 500 |
| | s | 105 | 95 | 96 |
| | N | 37 | 44 | 30 |
| II Activity-passivity | M | 502 | 501 | 499 |
| | s | 107 | 93 | 106 |
| | N | 37 | 44 | 30 |
| III Weak self-control | M | 491 | 483 | 538 |
| | s | 108 | 88 | 104 |
| | N | 37 | 44 | 30 |

It can be observed that, for the two first factor scores, the differences between the groups are extremelly small. There is a small U-tendency for weak self-control, with the medium change group scoring lowest on this factor. The only significant difference is for weak self-control between the high and medium change groups.

The results are presented in Figure 12.

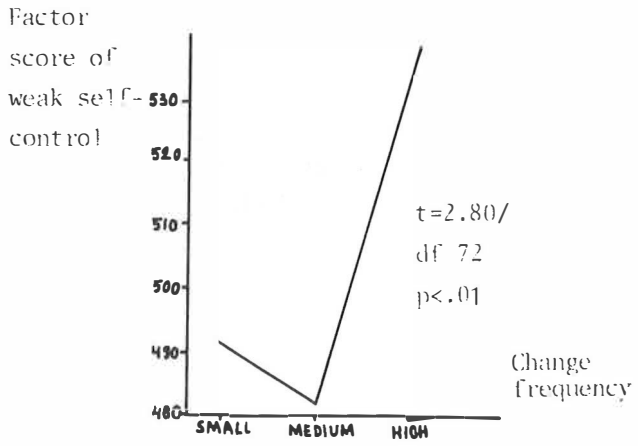



Figure 12. Mean of factor score of weak self-control in life change frequency groups

The results on the relation between Pulkkinen's scales and life change confirm the hypothesis that weak self-control is connected with abundant change. In addition, the results also favour a U-interpretation of stress, although the results were not significant.

4.4.4.2. Behavioural problems and life change

In order to study the relationship between behavioural problems and life change both single problems as well as a sum scale of the problems were analyzed. Table 27 shows the occurrence of the symptoms for up to the year prior to the interview and the year preceding the interview. Table 27 also contains the correlations of the problems with their sum.

Table 27. Occurrence of behavioural problems and their correlation with the total sum of problems for the previous year and prior to it (N=111)

| Previous year | | | | | Prior to the previous year | | | |
|---|---|---|---|---|---|---|---|---|
| Var. no. | f | % | r with sum | Type of problem | Var. no. | f | % | r with sum |
| 412 | 11 | 12.4 | .13 | Sleeping difficulties | 432 | 22 | 23.9 | .29 |
| 413 | 19 | 21.2 | .01 | Allergy or asthma | 433 | 25 | 27.4 | -.05 |
| 414 | 6 | 6.2 | .25 | Nightmares | 434 | 9 | 9.7 | .37 |
| 415 | 1 | 0.9 | .35 | Stuttering | 435 | 1 | 1.2 | .26 |
| 416 | 5 | 5.3 | .23 | Serious illness | 436 | 10 | 11.5 | .31 |
| 417 | 7 | 8.0 | .24 | Fatigue | 437 | 5 | 5.3 | .01 |
| 418 | 9 | 9.7 | .45 | Concentrating difficulties | 438 | 14 | 15.0 | .28 |
| 419 | 13 | 14.1 | .09 | Headaches | 439 | 10 | 11.5 | .00 |
| 420 | 8 | 8.9 | .33 | Nervousness | 440 | 6 | 7.1 | .24 |
| 421 | 3 | 2.7 | -.01 | Viral infections | 441 | 6 | 7.1 | .22 |
| 422 | 7 | 8.0 | .24 | Stomach pains | 442 | 21 | 23.0 | .39 |
| 423 | 21 | 23.0 | .12 | Refusals to eat | 443 | 19 | 21.2 | .13 |
| 424 | 16 | 17.7 | .06 | Nailbiting | 444 | 18 | 20.4 | .14 |
| 425 | 0 | 0.0 | .00 | Bedwetting | 445 | 10 | 11.5 | .09 |
| 426 | 1 | 0.9 | .01 | Thumbsucking | 446 | 6 | 7.1 | .16 |
| 427 | 2 | 1.8 | -.06 | Crying | 447 | 9 | 10.6 | .31 |
| 428 | 10 | 11.5 | .25 | Timidity | 448 | 22 | 24.8 | .34 |
| 429 | 5 | 5.3 | .43 | Aggression | 449 | 6 | 7.1 | .26 |
| 430 | 16 | 17.7 | .30 | Tension | 450 | 18 | 19.8 | .54 |

It can be seen from Table 27 that up to the year prior to the interview the most frequently mentioned problem was allergy or asthma. This was mentioned by 27.4 % of the mothers. The result is interesting in itself and in line with a general belief that precisely this kind of illness is increasing in a child population. It should be noted, however, that this item does not correlate with the other problems and therefore does not measure the same thing. Other problems with quite a high frequency were timidity, stomach pains, sleeping difficulties and nailbiting, as well as a refusal to eat certain dishes.

For the year prior to the interview, allergy and asthma were again among the most frequent symptoms. In general, however, there had been fewer troubles during the previous year than formerly.

A look at the correlations with the total sum of problems shows that the highest correlation, .54, is with tension formerly. As it has quite a high frequency, the correlation is rather reliable. In addition, difficulties in concentrating during the previous year correlates .45 with the total score. Here, however, the frequency is quite small. Aggression during the last year has a correlation of .43, but a frequency of only 5. The low frequencies have to be taken into account in interpreting the results below.

An inspection of the correlations in Table 27 shows that the items do not form a unitary scale. This was confirmed in a factorization of the summed items for both the year preceding the interview and prior to that. In a four-factor solution, the strongest factor was one which could be called weak self-control, with the highest loadings for aggression (.60), illness (.53), stuttering (.53) and tension (.47). The second factor was one of sleeping problems with sleeping difficulties (.63), crying (.54) and nightmares (.54). The third factor was most clearly a psychosomatic symptoms factor with fatigue (.50), stomach pains (.50), difficulties in concentrating (.48), tension (.40) and shyness (.29) and the last a (respiratory) diseases factor with viral infections (.41), allergy and asthma (.26) and illness (.21), but also bedwetting (-.45).

Table 28 contains the correlations of the problem items with measures of life change. Each item has been correlated with the total frequency of events during the year preceding the interview, as well

as with the weighted life event score and the number of different day-care caretakers.

Table 28. Correlations of behavioural problems with indexes of life change

| Problems previous year | | | | | | | Problems prior to previous year | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total frequency | Changes previous year | Changes 0-4 yrs | Weighted changes | Day care changes | Type of problem | | Total frequency | Changes previous year | Changes 0-4 yrs. | Weighted change | Day care changes |
| 412 | -03 | -11 | -05 | -03 | -09 | Sleeping difficulties | 432 | 10 | 04 | 06 | 06 | 15 |
| 413 | 14 | 21$^{x}$ | -14 | 05 | -09 | Allergy or asthma | 433 | -14 | 11 | -26$^{xx}$ | -02 | -06 |
| 414 | -05 | 00 | -08 | -04 | -09 | Nightmares | 434 | 03 | -09 | -02 | -05 | 14 |
| z415 | 06 | 01 | 06 | 08 | 07 | Stuttering | z435 | 09 | 14 | -02 | 06 | 01 |
| 416 | 18$^{x}$ | 10 | 15 | 16 | 06 | Serious illness | 436 | 13 | -05 | 22$^{x}$ | 18$^{x}$ | 17 |
| 417 | -05 | -05 | -10 | -10 | 01 | Fatigue | 437 | 15 | 21$^{x}$ | -01 | 16 | 06 |
| 418 | -02 | 00 | -04 | 07 | 04 | Concentrating diff. | 438 | 20$^{x}$ | 06 | 08 | 13 | 14 |
| 419 | -13 | -10 | -10 | -13 | -06 | Headaches | 439 | -11 | -07 | -14 | -10 | -04 |
| 420 | -04 | 05 | 02 | -05 | -14 | Nervousness | 440 | 05 | 07 | -06 | -08 | 13 |
| 421 | -10 | -07 | -04 | -11 | -04 | Viral infections | 441 | 24 | 01 | 20 | 13 | 28$^{xx}$ |
| 422 | -04 | -19$^{x}$ | 12 | 00 | -09 | Stomach pains | 442 | 13 | -07 | 05 | 08 | 18$^{x}$ |
| 423 | 02 | -18$^{x}$ | 03 | -05 | -01 | Refusal to eat | 443 | -10 | -20$^{x}$ | -05 | -21$^{x}$ | -02 |
| 424 | -09 | 05 | -16 | -16 | -05 | Nailbiting | 444 | 07 | 03 | -11 | -12 | 23$^{x}$ |
| 425 | .. | .. | .. | .. | .. | Bedwetting | 445 | 15 | 00 | 09 | 09 | 01 |
| z426 | 26$^{xx}$ | 00 | 16 | 33$^{xxx}$ | 00 | Thumbsucking | 446 | 04 | 04 | 03 | -00 | 00 |
| z427 | -02 | -04 | -05 | -13 | 04 | Crying | 447 | 25$^{xx}$ | -00 | 16 | 12 | 31$^{xxx}$ |
| 428 | -02 | -22$^{x}$ | 04 | 15 | -13 | Timidity | 448 | 10 | 12 | -03 | -04 | 17 |
| 429 | 03 | 10 | 13 | 20$^{x}$ | -05 | Aggression | 449 | 19$^{x}$ | 01 | 20$^{x}$ | 18$^{x}$ | 10 |
| 430 | 08 | 03 | 03 | 11 | 11 | Tension | 450 | 10 | 03 | -05 | -05 | 23$^{x}$ |
| $X_{r_z}$ | 07 | 08 | 08 | 11 | .06 | | | 13 | 07 | 09 | 09 | 15 |

N=111, r=.18, p< .05, r=.25, p< .01, r=.30 p< .001
z= very small frequencies

It should be remembered that the hypothesis was that there is a positive correlation between life change and behavioural problems. Most correlations are, however, quite low and some even opposite in direction to the predictions. It should be noted that the highest correlations are for day-care changes, here measured by the number of different caretakers. The highest correlation is for crying (.31,$p<.001$), then for viral infections (.28,$p<.01$), tension, nailbiting and stomach pains, all for the period up to the year preceding the interview. The correlations with problems shown during the previous year are considerably smaller. The result indicates that children with many caretakers exhibited more crying, more tension, stomach pains and nailbiting than children with fewer caretakers. The result for viral infections (and an almost significant correlation for serious illneses) support the general belief that viral infections are inseminated in groups of children. In general, these results should be interpreted with care, however, as there may be some third factor which leads to both the day-care changes and the behavioural problems. This factor might lie with the mother, for instance.

It may be warranted to comment on the correlation, .22, between serious illness and changes before the age of four, and .20 with viral infections. This correlation is partly explained by the fact that illnesses formed part of the life change indexes. There was, however, a correlation of only .16 between the total weighted score and a score composed of the child's illnessess and hospitalizations. In order to analyze the relation between illness and life change, the latter score was correlated with a score composed of all other changes, excluding illness and hospitalization. The correlation was small, only .10. A regression analysis with single life events as predictors revealed that the two best predictors of the child's illness were the illness of the father and the mother, both with a significant t-value for the standardized regression coefficient. The beta-weight for changes of school was significant at the 5 % level. Other single life events did not enter the equation. Thus, it is difficult to state that an illness of the child is related to changes in general. Rather, the result of some earlier studies that there is a relationship between an illness in the child and an illness in the parents is confirmed. The article

by Downes and Simon (1953) shows that illness was clearly concentrated within certain families. Buck and Laughton (1959) observe that "a major chronic disease or psychoneurosis in one member of a family is associated with an above-average incidence of disease in the other family members". Rutter (1971) also found a rise in the child's symptoms connected with parental illness. The study by Wolf (1970) and Wolf & Acton (1968) shows that the relationship holds for psychiatric illness as well.

Another correlation upon which comment should be made is that of -.26 between the child having suffered from allergy or asthma and changes between birth and four years. The design of this study as well as the small number of cases do not permit an in-depth interpretation of this result. One possible explanation is, however, that a very small number of changes leads to a situation where the child is exposed to the same environment for a long time and this may lead to asthma or allergy. In fact, the only positive correlation with asthma or allergy is with the number of changes during the previous year. It is possible that the family had arranged changes because of the child's allergy (e.g. moved). The relationship between allergies and asthma in children and their life changes remains to be studied in later works.

What general conclusions can be drawn on the basis of the correlations? It must be admitted that the mean of the correlations is very low, .09. The z-transformed means of the correlations shows that the highest mean, .15, is for day-care changes with problems up to the year before the interview. The correlations with the weighted change are generally low (some correlations are quite unreliable because of the low frequencies). There are occasional significant correlations, some inverse in direction in relation to the hypotheses. Apart from the fact that correlations do not indicate causal relations, they do not indicate any clear relations between life change and behavioural problems.

Two things must be remembered, however. First, the distribution of many problems is quite skewed, and secondly, the relationship may be a non-linear one. Therefore, it was decided to study the percentage of cases with behavioural problems in groups with a differing

amount of life change. Table 29 shows the result for problems up to the year before the interview and Table 30 for the year prior to the interview. In both tables, the percentage is presented in relation to both unweighted (U) and weighted (W) change. Both scores were divided into three groups: small change, medium change and high change. The number of cases in each group is presented at the top of both tables. It should be observed that the frequency is often quite small.

Table 29. Percentage of cases with behavioural problems up to the year before the interview in life change groups based on the unweighted (U) and weighted (W) life change score

| Number of cases in the groups | | Small change 1 | Medium change 2 | High change 3 |
|---|---|---|---|---|
| Unweighted life change score | U | 37 | 48 | 26 |
| Weighted life change score | W | 38 | 53 | 20 |

| Var. no. | Type of problem | Type of change | Small change 1 | Medium change 2 | High change 3 | t/df | Significance |
|---|---|---|---|---|---|---|---|
| | | | % | % | % | | |
| 432 | Sleeping difficulties | U | 22 | 21 | 35 | | n.s. |
| | | W | 24 | 21 | 35 | | n.s. |
| 433 | Allergy and asthma | U | 30 | 31 | 19 | | n.s. |
| | | W | 24 | 34 | 20 | | n.s. |
| 434 | Nightmares | U | 8 | 8 | 15 | | n.s. |
| | | W | 24 | 34 | 20 | | n.s. |
| 435 | Stuttering | U | 0 | 0 | 8 | | n.s. |
| | | W | 11 | 8 | 15 | | n.s. |
| 436 | Serious illness | U | 14 | 8 | 15 | | n.s. |
| | | W | 11 | 8 | 25 | 3,2=2.1/71 | p<.05 |

(continues)

Table 29. (continued)

| Var. no. | Type of problem | Type of change | Small change 1 % | Medium change 2 % | High change 3 % | t/df | Significance |
|---|---|---|---|---|---|---|---|
| 437 | Fatigue | U | 0 | 6 | 12 | 3,1=2.2/61 | p<.05 |
| | | W | 0 | 8 | 10 | 3,1=2.0/56 | p<.05 |
| 438 | Concentrating difficulties | U | 8 | 13 | 31 | 3,1=2.4/61 | p<.05 |
| | | W | 16 | 11 | 25 | | n.s. |
| 439 | Headaches | U | 14 | 3 | 8 | | n.s. |
| | | W | 13 | 13 | 5 | | n.s. |
| 440 | Nervousness | U | 8 | 2 | 15 | 3,2=-2.2/72 | p<.05 |
| | | W | 13 | 2 | 10 | 1,2=-2.2/89 | p<.05 |
| 441 | Viral infections | U | 3 | 10 | 8 | | n.s. |
| | | W | 8 | 4 | 5 | | n.s. |
| 442 | Stomach pains | U | 24 | 17 | 35 | | n.s. |
| | | W | 21 | 21 | 35 | | n.s. |
| 443 | Refusal to eat | U | 27 | 17 | 23 | | n.s. |
| | | W | 29 | 23 | 5 | 1,3=-2.2/56 | p<.05 |
| 444 | Nailbiting | U | 22 | 19 | 23 | | n.s. |
| | | W | 32 | 13 | 20 | 1,2=-2.2/56 | p<.05 |
| 445 | Bedwetting | U | 3 | 13 | 23 | 3,1=-2.6/61 | p<.05 |
| | | W | 3 | 17 | 15 | 2,1=2.2/89 | p<.05 |
| 446 | Thumbsucking | U | 11 | 4 | 8 | | n.s. |
| | | W | 11 | 4 | 10 | | n.s. |
| 447 | Crying | U | 5 | 8 | 23 | 3,1=-2.1/61 | p<.05 |
| | | W | 11 | 8 | 20 | | n.s. |
| 448 | Timidity | U | 19 | 23 | 39 | | n.s. |
| | | W | 29 | 25 | 20 | | n.s. |
| 449 | Aggression | U | 5 | 4 | 15 | | n.s. |
| | | W | 8 | 0 | 25 | 1,2=-2.1/89 | p<.05 |
| | | | | | | 3,2=4.2/71 | p<.001 |
| 450 | Tension | U | 22 | 15 | 27 | | n.s. |
| | | W | 26 | 15 | 20 | | n.s. |

Table 30. Percentage of cases with behavioural problems the year preceding the interview in life change groups based on the unweighted (U) and weighted (W) life change score

| Number of cases in the groups | | Small change 1 | Medium change 2 | High change 3 |
|---|---|---|---|---|
| Unweighted life change score | U | 37 | 48 | 26 |
| Weighted life change score | W | 38 | 53 | 20 |

| Var. no. | Type of problem | | Small change 1 | Medium change 2 | High change 3 | t/df | Significance |
|---|---|---|---|---|---|---|---|
| | | | % | % | % | | |
| 412 | Sleeping difficulties | U | 14 | 15 | 8 | | n.s. |
| | | W | 13 | 13 | 10 | | n.s. |
| 413 | Allergy and asthma | U | 24 | 23 | 15 | | n.s. |
| | | W | 16 | 26 | 20 | | n.s. |
| 414 | Nightmares | U | 8 | 4 | 7 | | n.s. |
| | | W | 3 | 9 | 5 | | n.s. |
| 415 | Stuttering | U | 0 | 0 | 4 | | n.s. |
| | | W | 0 | 0 | 5 | | n.s. |
| 416 | Serious illness | U | 0 | 4 | 15 | 3,1=2.14/56 | p<.05 |
| | | W | 3 | 6 | 10 | | n.s. |
| 417 | Tiredness | U | 11 | 6 | 8 | | n.s. |
| | | W | 8 | 11 | 0 | | n.s. |
| 418 | Concentrating difficulties | U | 11 | 8 | 12 | | n.s. |
| | | W | 11 | 6 | 20 | | n.s. |
| 419 | Headaches | U | 16 | 19 | 4 | | n.s. |
| | | W | 16 | 7 | 5 | | n.s. |

(continues)

Table 30. (continued)

| Var. no. | Type of problem | Type of change | Small change 1 | Medium change 2 | High change 3 | t/df | Significance |
|---|---|---|---|---|---|---|---|
| | | | % | % | % | | |
| 420 | Nervousness | U | 14 | 6 | 8 | | n.s. |
| | | W | 13 | 6 | 10 | | n.s. |
| x421 | Viral infection | U | 5 | 2 | 0 | | n.s. |
| | | W | 5 | 2 | 0 | | n.s. |
| 422 | Stomach pains | U | 11 | 4 | 12 | | n.s. |
| | | W | 11 | 0 | 25 | 1,2=-2.5/89 | p<.05 |
| | | | | | | 3,2=4.2/71 | p<.001 |
| 423 | Refusal to eat | U | 24 | 21 | 27 | | n.s. |
| | | W | 29 | 23 | 15 | | n.s. |
| 424 | Nailbiting | U | 16 | 25 | 8 | | n.s. |
| | | W | 21 | 19 | 10 | | n.s. |
| 425 | Bedwetting | U | 0 | 0 | 0 | | |
| | | W | 0 | 0 | 0 | | |
| x426 | Thumbsucking | U | 0 | 0 | 4 | | n.s. |
| | | W | 0 | 0 | 5 | | n.s. |
| x427 | Crying | U | 3 | 2 | 0 | | n.s. |
| | | W | 5 | 0 | 0 | | n.s. |
| 428 | Timidity | U | 11 | 15 | 8 | | n.s. |
| | | W | 3 | 19 | 10 | 2,1=2.4/89 | p< .05 |
| 429 | Aggression | U | 5 | 4 | 8 | | n.s. |
| | | W | 3 | 4 | 15 | | n.s. |
| 430 | Tension | U | 22 | 13 | 21 | | n.s. |
| | | W | 18 | 13 | 30 | | n.s. |

x) very small frequencies

A look at Table 29 shows that the assumption that there may be a curvilinear relation between life change and behavioural problems is sustained. For many problems, the percentage of occurrence is higher in both the high and small change group than in the medium change group, although the differences between small and medium change is nonsignificant in most cases. The problems 'serious illness', 'fatigue', 'concentrating difficulties', 'bedwetting' and 'crying' conform to the hypothesis that the frequency of behavioural problems is highest in the high change group and the relation is a linear one.

Table 30 shows the same data for problems during the year prior to the interview. A comparison with the former results clearly shows that there are much fewer significant differences. One reason for this may be that the frequency of problems is smaller during the last year and the range is thus more restricted. The number of cases in the high change group especially is clearly too small to allow inferences to be drawn.

To enable a synthesis of the results concerning the 19 problems for two time periods and two life change scores (76 comparisons), those results where there was at least one difference between life change subgroups significant at the .05 level are presented in graphic form in Figure 13. The graphs are grouped according to the type of life change score and the time period covered by the problems. It can be seen that in the upper right quadrant, representing weighted life change and problems prior to the year before the interview, there was the highest number of significant relations (6). In three of the cases (fatigue, illness and aggression) the frequency was highest in the high change group (the reader is referred to Table 30 for the exact t-values). It is interesting to note that three of the significant relations were contrary to the hypothesis, i.e. the value was higher in the small change group. Two of these problems, a refusal to eat certain dishes and nailbiting are, however, of a less serious nature.

In the upper left quadrant, the graphs concern the unweighted life change score and problems prior to the year before the interview. Here, five differences were significant. In all cases, the value for the high change group was highest and therefore the hypothesis that

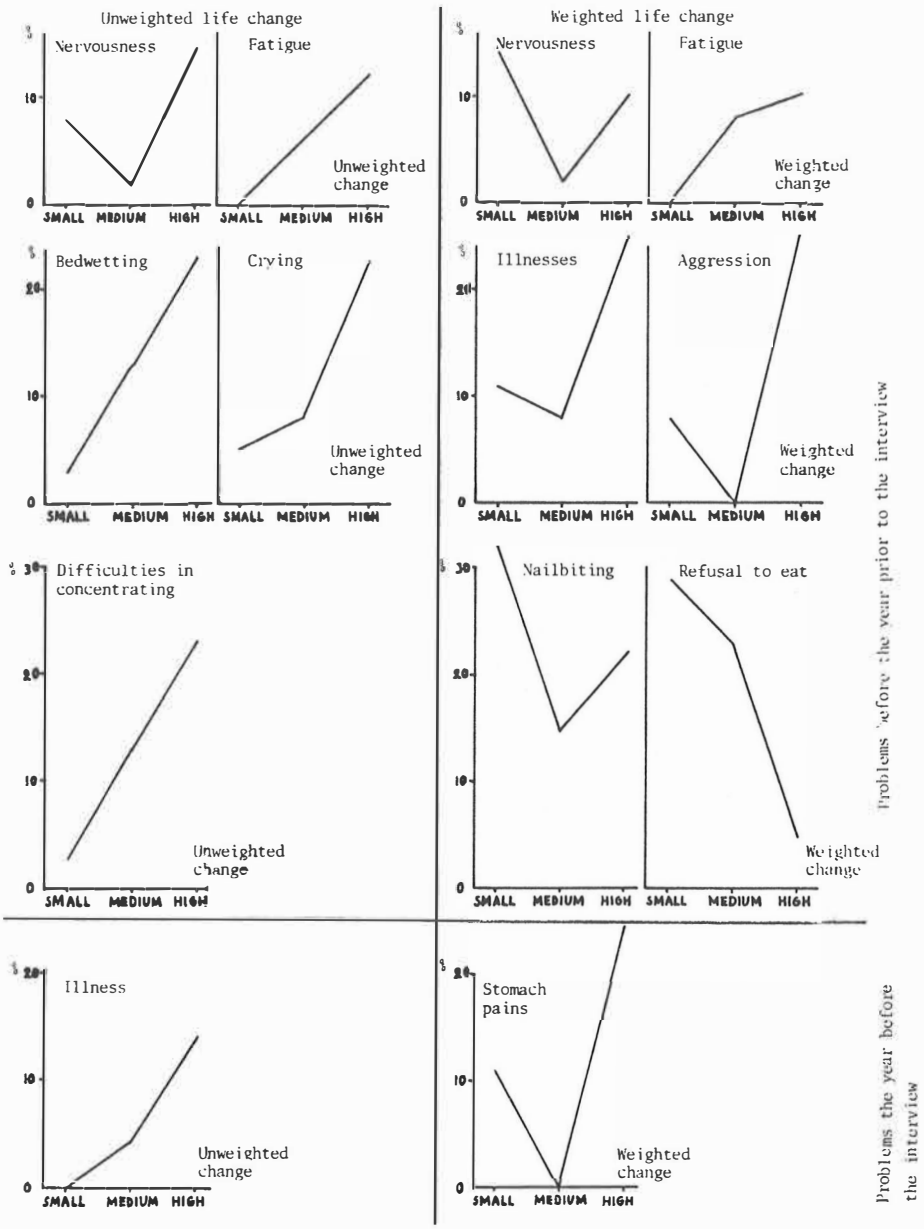



Figure 13. Single behavioural problems with significant differences between life change groups

high life change is connected with behavioural problems seems to be truer for the unweighted than for the weighted life event score. It may be observed that the distribution of 'difficulties in concentrating' is quite good and this item correlates highly with the sum of behavioural problems. This relation is therefore especially interesting.

There was only one significant difference each for problems during the year prior to the interview (the lower quadrants). In both cases, the value of the high change groups were highest. The small number of significant differences is probably due to the smaller range of symptoms during the one-year period as compared with the longer time span.

Because of the small frequency of the single behavioural problems, a sum scale was formed on the assumption that there are several indices of distress in the same child. A sum of those problems either during the year prior to the interview or before it which had a correlation of .20 or more with the total sum of the scores was computed. The correlations of this score with indexes of life change are presented in Table 31.

Table 31. Correlations of the sum of behavioural problems with indexes of life change

| | Unweighted change | Weighted change | Changes last year | Changes 0-4 yrs. | Day-care changes |
|---|---|---|---|---|---|
| Sum of behavioural problems | .20$^{x}$ | .09 | .06 | .08 | .26$^{xx}$ |

Table 31 shows that, in accordance with the hypothesis, there is a positive and almost significant ($p \lesssim .05$) correlation between the sum of behavioural problems and the unweighted life change score. This may partly be due to the fact that the latter score is composed of day-care changes. As in the case of weak self-control, the highest correlation here is also that with day-care changes.

Again, in order to check possible non-linear relations, the mean of the sum of behavioural problems was computed for the life change groups. The result is presented in Figure 14.

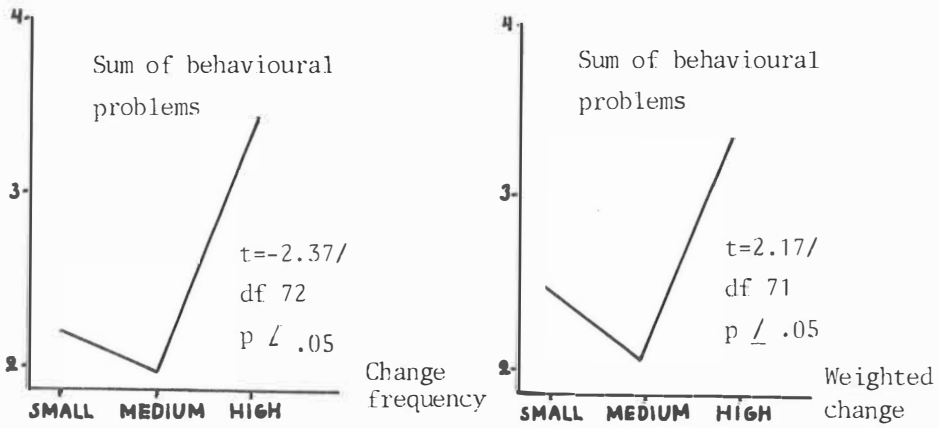



Figure 14. Means of sum of behavioural problems in life change groups

Figure 14 shows that there is a slight U-tendency, i.e. the symptoms are higher in both the small and high change groups than in the medium change groups. The difference between the high and medium change groups for both weighted and unweighted change is significant at the 5 % level. The result confirms the hypothesis that a high change is connected with behavioural problems.

## 4.5. Discussion

The hypotheses in Study C stated that a high degree of life change is connected with weak self-control and behavioural problems in the child. On the whole, the hypotheses were confirmed. The differences between life change groups were mostly significant at the 5 % level, but they might be accentuated if other data sources had been available, especially for measuring child behaviour. A higher number of cases in the high and low change groups might also influence the result.

On the whole, the results are in accordance with the analysis in Section 1.2. that the collative properties of life events, e.g. surprisingness and unpredictability, lead to distress, and not only anxiety, as McReynolds predicts, but more generally, to weak self-control in the child. Moreover, the results favour the U-model of stress as applied to life events, i.e. that an abnormal stimulus load, be it too high or too low, is unfavourable. In the case of life events the results imply that a child should encounter an optimum number of life events. This is, in fact, in line with several other theories, especially the Eriksonian approach to crises (c.f. Erikson 1964, Wolff 1972, Cullberg 1977). Caplan (1964, 63) views a crisis as "a transitional period presenting an individual both with an opportunity for personal growth and danger of increased vulnerability to mental disorder, the outcome of which in any particular instance to some extent depends on his way of handling the situation...". Therefore, life events constitute not only negative threats, but developmental tasks as well.

Although the correlations between the life change indexes and the dependent variables may seem low, they are of much the same magnitude as in the study by Gersten et al. (1977) on children's life events. They found, for instance, a correlation of .16 between anxiety and a life event score.

This study showed slightly higher correlations with the unweighted than with the weighted life change score. This does not imply that the weighted score, or the readjustment ratings, are not useful. The most that can be inferred is that it is not very useful with the dependent variables used here. The result also points to the fact

that it is not always the seriousness of the events which is important, but the change involved in them.

One reason for the higher correlations for the unweighted score may lie in the fact that it contained day-care changes which, again, had the highest correlations of all life change measures with the dependent variables. The result is in line with theories stressing the importance of continuous, close interpersonal relations for the child. It also casts some doubt upon the use of such composite scores as the life change indexes. After all, it may be that some of the events in the index are alone responsible for the high correlations.

At this point, another word of caution should be given about life change indexes, and the comparison of indexes of different studies. Although it should be assumed that different indexes are equivalent despite their slightly different composition, this need not be the case. Therefore, in referring to the instability of the environment, for instance, the content of this concept should be specified. There is even reason to doubt the usefulness of a global index of life change. Instead, more precise subscales should be developed. In the future, more thorough studies are needed on these problems.

The weakest point in this study lies in its correlative design. Although some correlations are significant, they may be the result of some third factor. In fact, Gersten et al. (1977,241) state that "it can be seriously questioned as to whether scores based on checklists of changes or events in a person's life are in fact measuring the separate, distinct variable called changes in life conditions." They arrived at this conclusion after having found that the addition of different life event scores to equations predicting child behaviour was nonsignificant after the effects of parental behaviour. For this study, the same procedure was used as well. When entering five maternal variables and one life change measure at a time, the life change measure mostly entered the equation third to fifth. The result is in line with that of Gersten et al. and should warn against too direct interpretations of the correlations.

The main data gathering method of this study was a semi-structured interview, termed the thematic interview. Methodologically, it combines features of the qualitative and the quantitative approach. The interview phase, especially, aims at an understanding of the subject and his world. This is clearly seen in the reporting of data in Part I of the study, which relies mainly on excerpts from the interview. This is, however, not at odds with quantifying its content. This is the case in Study D, and it was formerly done with the material of the study Aggression Risk Groups (1975), for instance, which was later studied by multivariate methods (Hurme 1976). Bierschenk also (1976a,b) reports quite elaborated forms of such an analysis. Of course, the same requirements have to be made as in any other research. This concerns, for instance, the distribution of scores or the number of subjects in relation to the number of variables.

There is a debate concerning the advantages of the interview over the questionnaire, and vice versa. Radke-Yarrow et al. (1968, p.134) state that "it is clear that the interview technique as it has often been employed in child rearing research is an especially loose method for the performance of a difficult task". Sears, Rau and Alpert (1965) also consider the interview a fallible method, the validity of which is imperfect and unknown. For life events, Mattila and Salokangas (1976) refer to Galtung (1970) in defending the use of a questionnaire.

In spite of all this criticism, the interview, especially in the semi-structured form used here, has clear advantages. The strength of the thematic interview lies in its ability to penetrate sufficiently deeply into the subject area, and to a great extent on the interviewee's conditions. Therefore, the results largely reflect the structures of the interviewee's minds instead of the mind of the researcher, which is the case in questionnaire studies. This feature may, at the same time, be a major weakness. For instance, results of the interview may not yield the dimensions which testing a theory requires. It should be observed here that it is also possible to direct the answers in the thematic interview, first, by the main questions, and, secondly, by probing. To yield useful results, the thematic interview requires, in fact, a thorough testing of the interview guide.

In Part II of the study, data concerning the child's behaviour were gathered by the use of two rating scales. Pulkkinen's (Pitkänen 1969) scale has formerly been used by peers and teachers to rate the child's degree of self-control and activity-passivity, and for these groups it has proved very valid. The main difference when compared with the mothers' ratings is that both peers and teachers have other children as a frame of reference, and thus their ratings are based on comparisons. It is more difficult for a mother to say whether her child is very aggressive or only slightly aggressive. With this borne in mind, it may be concluded that Pulkkinen's blank may be used by mothers as well. The results of the ratings were validated by the substantial correlations between Pulkkinen's scale of anxiety and psychosomatic symptoms, for instance, as well as by a significant relation between weak self-control of the child and a lack of planfulness in the mother. In the future, ratings for the same child by mothers, teachers and peers might be obtained to consolidate the validity.

The second rating scale concerned behavioural problems, including psychosomatic symptoms, in the child and it was constructed for this study. The total scale proved to be composed of sub-areas. Some of the single problems hardly correlated at all with the total sum. Therefore, a sum of problems correlating over .20 with the total sum was formed. The quite high correlations of this sum with the factor of weak self-control, based on Pulkkinen's items, showed the nature of this score. It measures not only psychosomatic symptoms, but also weak self-control.

The interviews of this study especially showed that, even with clear connections between life events and child behaviour, the mothers also seemed to differ in many respects. Some of them seemed to be quite strong despite very serious events, such as the death of their husband, whereas others seemed defeated by minor events. In some cases, the mothers were clearly responsible for the abundant change experienced by their child, but they mostly seemed unaware of their own central role. These factors will be treated more closely in Study D.

# 5. STUDY D. FACTORS MODIFYING THE IMPACT OF LIFE CHANGE

## 5.1. Introduction

Study C showed that symptoms of distress and maladjustment in the child are related to abundant change. There are, however, children who had experience quite a number of changes or very severe changes without showing any signs of distress. Therefore, it seems likely that there are some factors in the family which modify the impact of change.

### 5.1.1. Child rearing practices as a form of social support

In studies concerning adults' reactions to life changes, the concept of social support has proved central (e.g. Andrews et al. 1978, Eaton 1978, Garrity, Somes & Marx 1977, Miller et al. 1976). According to Lin et al. (1979, p. 109),"social support may be defined as support accessible to an individual through social ties to other individuals, groups, and the larger community." In the case of children, the social support should come first and foremost from the family.

The traditional way to operationalize parental behaviour is to refer to child rearing attitudes or practices. Social support has not usually been analyzed from this point of view, although the content of some central child rearing factors clearly lends itself to this task.

Some writers (e.g. Herrman et al. 1975) use the concept of warmth/support (Devereux 1970), while others refer to love (Schaefer 1961) or warmth (Slater 1962). All these concepts refer to the first of the two most central child rearing factors extracted by Schaefer (1961), i.e. love v. hostility. The combination of love with a certain degree of control, Schaefer's second factor, yields what is termed a nurturant or guiding family atmosphere (Pulkkinen 1977, Hurme 1976), where the parents show affection for the child but, at the same time, set firm limits to his behaviour. The setting of limits may be considered as an attempt to structure the child's environment and thus

reduce the amount of conflicting cognitive input. This form of parental behaviour has indeed been found to be connected with strong self-control (Pulkkinen 1977, Hurme 1976) in children, whereas its opposite, a child rearing style and family atmosphere which is characterized by egocentric parental behaviour and a lack of interest in the child, a lack of explanations of the reasons for parental actions and the use of physical punishment, for instance, is connected with weak self-control in the child.

### 5.1.2. Life planning in structuring family life

The whole family usually experiences life changes together with the child. Therefore, the parent's ability to cope with stressful situations is central for him to be able to support the child.

Organizations try to avoid being involved in crises by careful planning. If a crisis occurs, planning is needed and decisions have to be made concerning the best possible solution to the situation. It is far less common to speak about planning of individuals or families, as Allardt (1975) also observes. One way of coping with change is, however, to structure life by planning its different aspects. Many authors refer to the fact that planning, decision making and problem solving in the family occur when stress increases (Weick 1971), where there is a conflict among alternatives (Knox 1977), when a change is anticipated (Brim et al. 1962) or, in general, in problematic situations (Aldous et al. 1971). Thus, it would seem logical to assume that planning would also occur in connection with life events, but that individuals differ in the amount of planfulness they have acquired.

Articles on life planning or planfulness are generally scarce. In 1956, Brim and Forer wrote a short article on life planning, but the term does not figure as an entry in Psychological Abstracts, for instance. There are some works mentioning related concepts (e.g. Scharman 1967, Kasakos 1971, Kastenbaum 1961, Doob 1971, Hill 1970, Odén 1975) and in 1977 Lurie published an article where life planning was connected with the concept of change. The article was, however, not

an empirical one, but rather a description of a programme for teaching planful behaviour to adults. Because of the lack of empirical data on individual planning, an analysis of the concept has to be based mostly on planning in organizations.

It has been quite popular to borrow a hierarchical model from organizational planning (c.f. Nieminen 1966, Kuusi 1966)or directly from Dewey (1933) (e.g. Brim et al. 1962). Brim et al. divide the individual decision making (or planning) process into six stages: identification of the problem, obtaining the necessary information, production of possible solutions, assessment of these solutions, choice of strategy and real action. Most writers using this sort of model warn, however, against too rigid an application (e.g. D'Zurilla & Goldfried 1971). Hacker (1978), for instance, has developed a model of human decision making which takes a return to former phases into account and therefore better reflects reality.

The phase of deliberation concerning different means to different ends is central in planning. It implies a consideration of the consequences of behaviour and is therefore close to the concept of self-control (c.f. Pulkkinen 1977), especially its components of self-restraint and delay of gratification. This phase should, however, be followed by the execution phase. This might be hypothesized as requiring initiative or activity on the part of the individual. In fact, Pulkkinen's (Pitkänen 1969) two-dimensional model, as well as a relatively similar model by Kassebaum et al. (1959) for adults, makes it possible to define planful behaviour as being composed of both a high degree of ego strength (or self-control), and intellectual control (versus impulsiveness), as well as of social participation (i.e. activity and intitiative).

A factor closely related to planfulness is the individual's future orientation or future time perspective, as planning is always activity directed towards the future. The importance of futurity for adequate coping and adaptation has been stressed by, for instance, Lowenthal et al. (1976).

Although the future time perspective is often measured by the most distant event mentioned by the individual (e.g. Brim & Forer 1956, LeShan 1952, Frank 1939, Wallace 1956), there is more to the concept than that. The future should be structured and organized and the

events envisaged should be realistic. If this is not the case, there is "a flight into the future" (Fraisse 1957). In adapting the concept of future orientation to child rearing, it may be stated that the parents should have a sufficiently long future orientation, where the child is taken into account by, for instance, considering his education.

To summarize, life planning may be defined as intentional, future oriented behaviour, which involves, among other phases, a choice of goals and a choice of means for reaching those goals, as well as the execution of these plans.

In applying the concept of life planning, or planfulness, to child rearing it must be observed that there are no child rearing studies with a factor which corresponds to the above definition of planfulness. Stranden and Vaalamo (1979) term one of their factors 'Supervising, planful', but a closer study of the content of the factor soon reveals that there is no reason for the second part of the factor. Rather, it contains items which Takala et al. (1960) term acceleration. Takala et al.'s (1960) study contains a factor closest to planfulness, i.e. 'Parents' ability to plan and their active interest in furthering the child's development'.

Although there seems to be no child rearing study with a clear planfulness factor, references to planful behaviour in connection with child rearing can be found in several sources (e.g. Peterson et al. 1959, Peck 1958, Roff 1949, Sears et al. 1965, Nummenmaa & Takala 1964). Single items may refer to planning, or, in some cases, the opposite of planfulness, i.e. impulsive childrearing, is treated. The work by Nummenmaa (1963) treats planning at length, but does not present empirical data. Quite a number of studies treat decision making in the family, and Spivack, Platt and Shure (1976) found a significant correlation between the mother's means-ends thinking and her child rearing style for girls. The result also indicated that the mother's child rearing score was lower for impulsive and inhibited girls than for behaviourally adjusted ones. The authors state that the mothers of the former girls commanded rather than encouraged the child to think out solutions to situations. Thus, there seems to be a close connection with aspects of what is here termed planfulness and child rearing.

5.1.3. Other parental factors facilitating their coping with changes

Planfulness is certainly only one feature which is central in coping with life changes and in supporting the child in the changes. Several studies show that the individual should possess high self-esteem and self-confidence in order to cope with difficulties. Wells and Marwell (1976), in their comprehensive review of the self-esteem concept, state that it consists of the evaluative, judgemental or affective aspects of the individual's self-concept. This component is, in their view, related to, for instance, adjustment. They draw the conclusion that individuals with low self-esteem exhibit anxiety and neurotic behaviour, perform less well under stress and are less effective socially.

Indivuduals with high self-esteem and a positive conception of the self have been found to react less to life change or to cope better with situations. Pearlin and Schooler (1978) found that low self-denigration seemed to be the most important coping resource (examples of self-denigration being 'I certainly feel useless at times' or 'At times I think I am not good at all'). Lowenthal et al. (1976) found that subjects preoccupied by stress had a negative self-image and weak ego-strength. In the case of parents, it may be hypothesized that low self-esteem hinders the parents from taking the necessary steps in life event situations or may even lead to the occurrence of some events, as the parents with low self-esteem are not able to withstand changes.

A third central factor besides planfulness and self-esteem in coping with changes is the individual's locus of control or, more exactly, his belief in his own possibilities to influence his behaviour as well as the surrounding world.

The roots of this dimension lie quite far back in time. It springs from Marx's, Weber's and Durkheim's thoughts on anomia/anomie and Veblen's analysis of luck and chance. A more modern form of the control dimension has its roots in Rotter's learning theory (1966) (see also Rotter 1975). Lefcourt (1966) gives quite a good definition of this dimension: "As a general principle, internal control refers to the perception of positive and/or negative events as being a conse-

quence of one's own action and thereby under personal control...". External control refers to the opposite of this belief.

There has clearly been a tendency to consider Rotter's scale as one-dimensional, but there are results (e.g. Mirels 1970, Coan 1974) which point to the fact that at least two dimensions are involved: a belief in the control of one's own life and a belief in the control of society. The latter dimension is clearly measured by alienation, a more modern form of anomia, which has been developed by Srole (1956) and Merton (1959). According to Besnard (1978), Mertonian alienation is identical with the powerlessness form of anomia, presented by Seeman (1959). Powerlessness, or the feeling that the individual is powerless in the face of society, would seem to be a major obstacle in coping with life change.

What, then, does external control or anomia imply in connection with life events in the family? There are a few studies related directly to this problem. Nuckolls, Cassell and Kaplan (1972) (see Johnson & Sarason 1978) found life change to be related to anxiety only in subjects with external control, and the results of Pearlin and Schooler (1978) also point to the fact that internal control prevents abundant change from causing negative consequences. It is also interesting to note that the control dimension is related to the outcomes of child rearing. Gildea, Glidewell and Kantor (1961) found that mothers who felt impotent, not responsible and believed in external control had the most disturbed children. It seems probable that these mothers do not, for instance, try to prevent the occurrence of events because they feel impotent.

There are some other studies where the locus of control has also been related to parental child rearing attitudes. Harris and Nathan (1973), for instance, found that parents differing on the locus of control dimension considered their child rearing problems to depend on different causes. The external parents more often blamed external factors than themselves. In addition, Snellman & Härmävaara (1979) found a correlation of .49 between a general factor of external control and the belief that human development depends on inherited characteristics.

To summarize, the parents' belief in external control may affect their behaviour towards the child in life event situations in several ways. First of all, external control has been found to be connected

with a bad adjustment in adults. For parents, this implies that they are not able to give the child full support. Secondly, a general belief in external control is related to a belief in external control in child rearing situations. This may imply a lack of parental child rearing actions because of the belief that behaviour is uninfluenceable. The result may be the development of weak self-control in the child and a lowered ability to resist changes. Third, a belief in external control may lead to a lack of actions with reference to life changes, again because of the belief that events are uninfluenceable. The result may be the occurrence of many events because they are not prevented or restraint from some positive action.

## 5.2. Problems and hypotheses

Study D aims at studying factors in the family which might lessen the the influence of abundant change on the child. The factors in question include parental child rearing practices and attitudes, planful behaviour in general and with regard to the child, and the mother's self-conception as well as her locus of control. The hypothesis is that, despite abundant change, children should show strong self-control and little or no maladjustment in the form of behavioural and psychosomatic problems when the mother is characterized by a supporting child rearing attitude, a lack of an authoritarian child rearing attitude and the use of corporal punishment, planfulness, and high self-esteem, as well as internal control and the lack of anomia; in short, features which promote her own adjustment and coping.

## 5.3. Methods

The data of study D were collected during the taped interviews with the mothers, described in Section 4.2. and Appendix 4. Thus, measures of child behaviour are based on the mother's ratings using Pulkkinen's scale (see Section 4.4.2.) and a rating of behavioural problems (Section 4.4.2.).

Child rearing was mainly measured through the thematic interview. It should be observed that only a few questions were directly asked concerning this topic. Rather, the child rearing variables have been formed on the basis of an analysis of the whole taped interviews. The interview guide, however, was composed in such a way as to cover many of the child rearing variables of the study Aggression Risk Groups (1975) in order to arrive at a factor of supporting and guiding child rearing.

It was decided to construct an instrument to measure different aspects of life planning and maternal behaviour relevant to coping which would be more structured than the thematic interview. As the area in question has not formerly been studied in a comprehensive way, this seemed the only way of ascertaining coverage of the main subtopics.

In choosing the life planning items, the following aspects were taken into account:

1) It was hypothesized that life planning would be manifested as a) former considerate and planful behaviour, b) present planful behaviour, c) the existence of plans for the future and d) as a general attitude in favour of planful rather than impulsive behaviour.

2) The items were primarily chosen to cover content areas close to family life and child rearing, e.g. education and financial status.

To cover both the behavioural and attitudinal aspects of planning and related constructs, two questionnaires were constructed one to measure the mother's ratings of her own behaviour (Appendix 5), the other to measure her opinions (Appendix 6). The reason for constructing two questionnaires was a pragmatic one: they were presented at different times between the interview questions.

The items of the questionnaires were either adapted from former instruments to obtain enough anchoring data, or constructed by the author. The nature of the items as well as their overlap with those of former instruments is presented in Appendix 5 and 6.

## 5.4. Subjects

The subjects in this study were the same mothers who participated in Study C. Of the 120 mothers in the sample, complete data were obtained from 111 families.

## 5.5. Results

### 5.5.1. Factors of maternal behaviour

A factorization of the two questionnaires for the measurement of maternal behaviour and attitudes (Appendices 5 and 6) was performed to discover the dimension of the instruments and in order to reduce the variables for further analyses. Some variables were dropped from the analysis on the basis of an inspection of the intercorrelations. In all, 59 variables were included.

In order to obtain uncorrelated dimensions, a principal components analysis was performed and a number of different varimax rotations were carried out. The Eigenvalue of the sixth factor was still quite high, indicating that much variance was still unexplained, probably due to the fact that the instrument has not been presented formerly and is thus quite heterogeneous. The six-factor solution was chosen because it fitted best the theoretical point of departure of maternal behaviour.

The presented six-factor solution explains 40.2 % of the total variance of the variables included in the analysis. The total solution is presented in Appendix 7.

Factor I Planfulness

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 461 | I can usually resist momentary temptations and behave in a manner consistent with more future goals | .75 | .58 |
| 496 | My behaviour is usually planned and not impulsive | .70 | .59 |
| 491 | I am able to save money | .68 | .51 |
| 453 | I like to plan things carefully and well in advance | .64 | .61 |
| 483 | I am thrifty | .64 | .49 |
| 470 | I am planful | .63 | .52 |
| 456 | I usually spend my money exactly in the way I have decided to use it | .60 | .44 |
| 473 | My behaviour is usually impulsive | -.52 | .46 |
| 474 | I usually buy my clothes on the spur of the moment | -.52 | .60 |
| 452 | I am thoughtful | .52 | .40 |
| 498 | I am systematical | .51 | .55 |
| 464 | I often impulsively buy things which I cannot afford | -.46 | .46 |
| 457 | I often change my mind | -.47 | .30 |
| 476 | I agree to do many things and then I don't follow them through | -.47 | .30 |
| 486 | I am careful | .42 | .58 |

Factor I explains 10.8 % of the total variance of the variables and 26.8 % of the common variance. An estimated reliability for the scale based on the above items with a loading over .40, based on the communalities, is .70.

The variables with the highest loadings on this factor clearly represent general planfulness. Eight of the ten items from the NESI impulsiveness scale (Mäkinen 1968) have high loadings on this factor but, at the same time, many items measuring the opposite of impulsiveness are also found with this factor. A person scoring high on this factor

usually behaves in a planned and not impulsive manner. This can be seen in being thrifty, for instance, or in such a small point as not buying clothes on the spur of the moment. The close connection with self-control is seen in the item with the highest loading: for adults, the resistance of temptation is clearly connected with intentional, future oriented behaviour.

Factor II Weak self-control

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 499 | It is easy for me to control my temper | -.54 | .34 |
| 465 | I have a short attention span | .54 | .43 |
| 475 | I have difficulties in controlling my temper in irritating situations | .53 | .41 |
| 471 | I lack self-confidence | .44 | .31 |
| 469 | I have difficulties in taking care of many jobs at one time | .42 | .28 |

On this factor, various variables connected with the self-image or self-conception of the mother have high loadings. Wells and Marwell (1976) suggest the use of the term self-esteem to refer to a general concept, covering different aspects of the individual's image of himself. At least two components of self-conception are present here. First, there are variables clearly measuring self-control, e.g. 'It is easy for me to control my temper' and 'I have a short attention span'. Secondly, especially the item 'I lack self-confidence' points to weak self-esteem. On the basis of the variables with the highest loadings, this factor has been termed weak self-control, but it clearly contains an idea of weak self-esteem at the same time.

The factor explains 5.2 % of the total variance and 12.8 % of the variance explained by the factors. The estimated reliability is .60.

Factor III Anomia

| Var. no. | Items | Loading | $h^2$ |
|---|---|---|---|
| 528 | Thinking is a luxury which is useless and sometimes even harmful | .66 | .48 |
| 520 | The present time is so complicated that the individual is powerless | .65 | .51 |
| 522 | Man's misfortunes result from the mistakes they make | .57 | .35 |
| 515 | Man is only a small cog in a big wheel and therefore all our efforts are in vain | .52 | .45 |
| 508 | It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad luck anyway | .49 | .68 |
| 492 | I am often ready to take chances even though I probably won't succeed | .44 | .38 |
| 527 | It is better to decide on things when they happen than to plan them in advance | .51 | .47 |
| 521 | If you think of everything that might happen you will just get confused | .48 | .26 |
| 462 | My life is not very useful | .45 | .44 |
| 506 | Parents are always right because they have more experience | .40 | .25 |

The variables with high loadings on this factor give a picture of a person who feels quite powerless, partly because of the complicated social system, partly because good or bad luck determines his life. Therefore, he probably considers it useless to plan the future. The item 'Parents are always right because they have more experience' may reflect a belief in a hierarchy based on power: while "society" has power over the individual, he has power over his children.

This factor consists mostly of items adapted from Rotter's internal-external control scale and Brim et.al.'s (1962) scale Belief in Thinking before action. The variables reflect both powerlessness and external control. As the items with high loadings often pertain to the lack of control over the larger social system, the factor has been given the name anomia. It should, however, be observed that it here

refers more to the powerlessness form of alienation than to anomia in the strict sense of the term.

The factor explains 6.5 % of the total variance and 16.1 % of the variance explained by the factors. The estimated reliability is .65.

Factor IV Initiative

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 455 | I have initiative | .62 | .49 |
| 460 | I have more willpower than most people | .60 | .39 |
| 498 | I am systematical | .48 | .55 |
| 467 | I believe in my own abilities | .47 | .42 |
| 478 | I carry out my plans easily | .44 | .39 |
| 474 | I usually buy my clothes on the spur of the moment | .42 | .60 |

Factor IV represents the executive function of behaviour, i.e. carrying out tasks. This requires initiative, being systematical and also willpower. At the same time, this factor gives a picture of someone believing in himself, especially the item 'I believe in my own abilities', and in this sense it is the opposite of factor II with its idea of weak self-esteem. The factor has been called 'Initiative' to stress the central role of the executive function.

The factor explains 6.2 % of the total variance and 15.3 % of the variance explained by the factors. The estimated reliability for a scale based on the above loadings over .40 is .65.

Factor V Belief in destiny

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 495 | I believe in destiny | .72 | .57 |
| 513 | Everything that happens to us has been written in the eternal plans of God | .61 | .46 |
| 508 | It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad luck anyway | .61 | .68 |

(continues)

Factor V (continued)

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 477 | I believe in the future | .53 | .43 |
| 512 | Happiness follows from living one day at a time | .50 | .44 |
| 525 | Our first impulses are good, thinking just spoils them | .49 | .45 |
| 497 | I am flexible when necessary | .43 | .36 |

Factor V depicts a person who believes that his life depends upon external forces and, in this sense, it is quite close to factor III. Here, however, there is clearly an idea of optimism present, e.g. 'Happiness follows from living one day at a time' and 'I believe in the future'. In addition, the item pertaining to guidance by God points not to anomia or alienation, but optimism. This and other items are connected with a belief in supernatural forces. Because of this it is called 'Belief in destiny'.

The factor explains 5.8 % of the total variance and 14.3 % of the common variance. The estimated reliability is .70.

Factor VI Rigid planfulness

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 529 | One should plan one's jobs carefully instead of starting them at once | .60 | .54 |
| 489 | I want to do something important in my life | .55 | .42 |
| 507 | Considering every alternative saves you a lot of trouble | .53 | .38 |
| 517 | When you have to decide upon doing something, it is worthwhile to make as complete a list as possible of all the alternatives | .48 | .52 |
| 511 | One should try to collect as much information as possible before making a decision | .44 | .28 |

(continues)

Factor VI (continued)

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 514 | Well planned is half done | .42 | .33 |
| 481 | I usually do what others want me to do | .41 | .31 |

This sixth factor seems to be a second planfulness factor. A person depicted by this factor could even be considered too planful, however. This rigid planfulness may be related to a fear of taking risks and it is a means of coping with a threatening environment. Therefore, this factor has been termed 'rigid planfulness'.

5.5.2. Factors of child rearing

To reduce the dimensions of child rearing as collated from the mothers' interview answers, a factorization of these variables was performed. The final combination of variables was chosen after an inspection of the intercorrelations. Varimax rotations with varying numbers of factors were performed on the original principal components solution. A two-factor solution explained only 8.2 % of the total variance. A six-factor solution was chosen as the best method and this is presented complete in Appendix 8. It explains 28.9 % of the total variance.

Factor I Supporting child rearing

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 593 | Adoption of child rearing methods more severe than in own home | .61 | .42 |
| 620 | Sacrifice of own education | .53 | .31 |
| 574 | Child rearing is acting as a model | .52 | .39 |
| 645 | Participation of child in big purchases | .44 | .27 |
| 572 | Close relationship | .38 | .34 |

(continues)

Factor I (continued)

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 639 | Physical punishment as a remedy to truancy does not help | .39 | .20 |
| 585 | Many rules in use | .39 | .21 |
| 640 | Many motivated child rearing alternatives | .36 | .53 |
| ----- | | | |
| 591 | Preserving positive child rearing traits from own home | .23 | .26 |
| 506 | Parents are always right because they have more experience | -.26 | .19 |

As compared with factors from former child rearing studies, this factor would seem to be a combination of love and control. The general picture is one where the parents are well aware of different child rearing alternatives. They consider acting as a model to be central to child rearing. They do not approve of physical punishment, but apply many rules in the home, probably in order to structure the child's environment, and thus reflect quite a high degree of control. At the same time, however, the relationship with the child is a close one. The child is considered to be an equal member in the family, a fact seen in, among other things, its participation in big purchases. These mothers feel that they have sacrified their education in favour of the child and most probably have stayed at home. As compared with their own home, they have preserved the positive traits but at the same time increased the degree of severity, again reflecting control.

Becker (1964) terms the combination of love and control protection. Devereux (1970) has expanded the term warmth to warmth/support and Ellis, Thomas and Rollins (1976) found that support is composed of both warmth and control plus certain other features. Herman et al. (1975) also call the traditional warmth factor support (Unterstützung). On these grounds, the term 'support' has been given to this factor.

Factor II Sacrificing child centeredness

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 616 | Sacrifice of time | .66 | .50 |
| 617 | Sacrifice of own pastimes | .60 | .40 |
| 623 | Bitterness because of sacrifices | .52 | .34 |
| 551 | High number of family's common activities | .48 | .33 |
| 628 | Goes to the store to explain if child shoplifting | -.44 | .28 |
| 580 | Child rearing is listening to the child | .43 | .31 |
| 618 | Sacrifice of own enjoyments, travel, etc. | .40 | .37 |
| 615 | Sacrifice of money | .40 | .40 |
| 627 | Explains to the child if child shoplifting | .38 | .29 |
| 527 | Close relationship | -.20 | .34 |

Factor II is dominated by items pertaining to sacrifice mentioned by the mothers as well as bitterness because of this sacrifice. At the same time, however, items are present which refer to rather child centered behaviour, e.g. listening to the child or explaining in a shoplifting situation. The bitterness is, however, accentuated by a lack of closeness in the relationship between the mother and the child. Sacrifice as such is a normal form of maternal behaviour and it may of course be argued that this factor also reflects a certain degree of realism in the mother-child relations, sacrifice leading to bitterness. Because of the lack of closeness, however, there is a certain flavour of duty present here. The factor has been termed 'sacrificing child rearing'.

It is difficult to find any counterpart to this factor in the literature as items pertaining to sacrifice and bitterness are usually lacking in former child rearing studies. The result points, however, to the need for also studying this component of child rearing more thoroughly.

Factor III Intuitive child centeredness

| Var. no. | | Loading | $h^2$ |
|---|---|---|---|
| 619 | Sacrifice of own work | -.59 | .42 |
| 614 | Importance of children | .52 | .35 |
| 634 | Mother accuses herself if child shoplifting | -.50 | .28 |
| 641 | High number of helping social agencies mentioned | -.48 | .33 |
| 615 | Sacrifice of money | .40 | .40 |
| 626 | Shoplifting would be a shock | -.38 | .28 |
| 526 | Children should have the right to express their opinion when their parents are talking together | .32 | .39 |
| 572 | Close relationship | .23 | .34 |

This factor is characterized by a low degree of awareness of child rearing alternatives, as indicated by the small number of assisting social agencies mentioned. On the other hand, the child is important and the mother has sacrificed money, but not her own work, for the child. There is, however, no bitterness because of the sacrifice and neither does the mother feel that she has sacrificed her own pastimes or enjoyments for the child. Of the different alternatives in a shoplifting situation, the highest positive loadings are for spanking the child (.14) and for depriving the child of privilegies (.13). The negative loadings for the mother accusing herself (-.50) and reacting with shock (.-38) probably indicate a lack of differentiation in analyzing the situation and thus confirm the intuitive nature of this factor. The content of this factor might be interpreted as the opposite of a conscious child rearing attitude (Takala et al. 1979) and the factor is called 'intuitive child centeredness'.

Factor IV Punishing child rearing

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 575 | Child rearing is corporal punishment | .63 | .43 |
| 629 | Gets angry if child shoplifting | .59 | .40 |
| 640 | High number of motivated child rearing alternatives | .54 | .53 |
| 579 | Child rearing is discipline | .46 | .32 |
| 588 | High number of chores at home | .42 | .32 |
| 632 | Child deprived of privileges if shoplifting | .38 | .20 |
| 637 | High number of other people's child rearing actions mentioned in the shoplifting situation | .32 | .38 |
| 624 | Difficulty of child rearing | .31 | .10 |
| --- | --- | --- | --- |
| 627 | Would explain if child shoplifting | -.28 | .29 |
| 645 | Participation of child in big purchases | -.24 | .27 |

This factor represents a form of behaviour where child rearing is seen as discipline and punishment. The child can be deprived of privileges and has many chores at home. There are no ideas about respecting the child's rights and the child is not allowed to participate in the family's purchases, for instance. On the other hand, the mother mentions a large number of motivations in connection with different child rearing alternatives within the truancy problem. She also mentions a large number of child rearing alternatives which she thinks other people would apply in a shoplifting situation. However, these may of course be the same actions she uses, i.e. corporal punishment and the deprivation of privileges. This factor has been termed 'punishing child rearing'. It would seem to represent the dimension punishment-mildness mentioned by Takala et al. (1960) and it also comes close to several control and strictness factors in other studies, e.g. Becker et al.'s (1962) physical punishment factor.

Factor V Authoritarian child rearing attitude

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 638 | Discussion as a remedy for truancy | -.50 | .32 |
| 592 | Obliterating severe child rearing traits from own home | -.48 | .38 |
| 510 | Children deserve as much consideration as adults | -.47 | .31 |
| 591 | Preserving positive child rearing traits from own home | .41 | .26 |
| 635 | Behaviour of others in the shoplifting situation more severe than own | -.39 | .28 |
| 631 | Denies, doubts if child shoplifting | .39 | .19 |
| 637 | High number of other people's child rearing actions mentioned in a shoplifting situation | -.37 | .38 |
| 506 | Parents are always right because they have more experience | .31 | .19 |
| --- | --- | --- | --- |
| 594 | Preserving severe child rearing traits from own home | .27 | .24 |
| 576 | Child rearing is warmth, closeness, tenderness | -.27 | .11 |

The general picture is one of 'old-fashioned' opinion on child rearing. The parents are seen as being right because they have more experience and the mother does not believe in discussion in the truancy situations. These mothers also think other people mostly use mild methods in shoplifting situations, but obviously do not believe in these methods themselves. They defend their child by denying possible shoplifting but the relationship with the child is not an especially warm one. Rather, the picture is the opposite of factor III, intuitive child centeredness. There is, however, a lack of authoritarian action on this factor, e.g. physical punishment, as compared with factor IV. In addition, two of the three attitude items concerning child rearing included in the analysis have considerable loadings on this factor. Thus, it is called 'authoritarian child rearing attitude'. It closest counterpart in former studies would seem to be Takala's et al's (1960) factor 'Acceptance of authoritarian/democratic ideology'.

Factor VI Conforming child centeredness

| Var. no. | Item | Loading | $h^2$ |
|---|---|---|---|
| 587 | Use of corporal punishment | -.49 | .28 |
| 654 | Considering children in future planning | .45 | .21 |
| 573 | Child rearing is advising, guiding, setting limits, telling what is right or wrong | .41 | .17 |
| 523 | Every family should have a five year plan | .40 | .28 |
| 526 | Children deserve as much consideration as adults | .39 | .34 |
| 618 | Sacrifice of enjoyments, travel etc. | -.38 | .37 |
| 594 | Preserving severe child rearing traits from own home | .32 | .24 |
| 633 | Corporal punishment if child shoplifting | -.31 | .16 |

The picture here might almost seem too good to be true. It depicts a mother who thinks that every family should have a five year plan, who has internalized the 'modern' way of child rearing with no use of corporal punishment, but instead advises and guides the child. Most of the items above show an extreme conformity to standards prescribed by child rearing authorities, even rigid overconformity. At the same time, however, a closeness is lacking in the relationship, as are a more analytical attitude with knowledge of assisting agencies or the motivation of child rearing alternatives. This factor might partly even measure socially desirable answers in the interview. The factor is termed 'conforming child centeredness'.

The two sets of factors, those of general maternal behaviour and those of child rearing were mainly based on different data sources, the first set on questionnaires, and the second on interview answers. Their correlations are presented in Appendix 13.

Most correlations were quite low. The highest correlation, .30 was between the mother's estimate of her own weak self-control and a conforming child centeredness, with a tendency to report "too good" child rearing features, e.g. "every family should have a five year plan". Anomia in the mother was related to a lack of supporting child rearing as well as to punishing child rearing.

### 5.5.3. Maternal factors in relation to change and factors of child behaviour

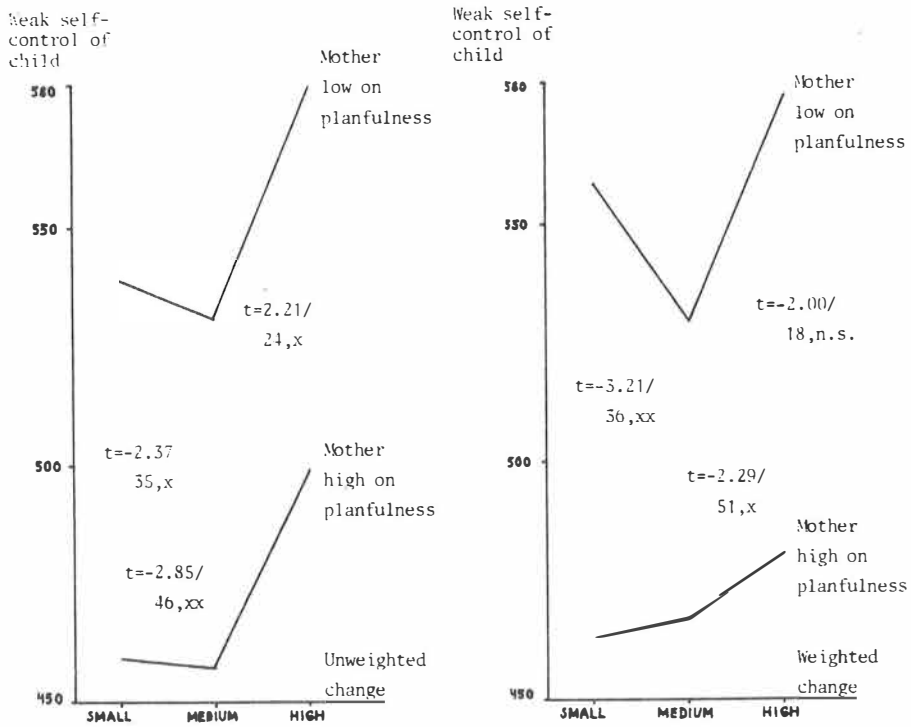
As there were six factors of general maternal behaviour, six factors of child rearing, two life change scores, 19 behavioural problems for two time periods and one summed score of the problems, about 1000 two-way analyses of variance in all were needed to describe the material. Therefore, it was decided to report mainly the results for the factor scores of child behaviour as well as for the summed score of behavioural problems. In addition, however, some single items, connected foremost with weak self-control, were analyzed. For these, those results where the total F-value was significant are reported.

Table 32 summarizes the F-values for two-way analyses of variance

Table 32. Total F-values (df 5,105) for two-way analyses of variance of maternal factors, child behaviour and life change

| | Factors of general maternal behaviour | Weighted change | Unweighted | Child rearing factors | Weighted change | Unweighted |
|---|---|---|---|---|---|---|
| Strong self-control | I Planfulness | 0.22 | 0.14 | I Supporting | 1.39 | 0.72 |
| | II Weak self-control | 1.63 | 1.49 | II Sacrificing | 0.83 | 0.53 |
| | III Anomia | 0.39 | 0.32 | III Intuitive | 0.43 | 0.16 |
| | IV Initiative | 1.05 | 0.69 | IV Punishing | 0.49 | 0.32 |
| | V Belief in destiny | 1.05 | 1.43 | V Authoritarian | 1.57 | 1.17 |
| | VI Rigid planning | 0.28 | 0.33 | VI Conforming | 0.90 | 0.83 |
| Activity-passivity | I Planfulness | 0.72 | 0.27 | I Supporting | 0.84 | 0.01 |
| | II Weak self-control | 1.25 | 0.95 | II Sacrificing | 0.87 | 0.22 |
| | III Anomia | 1.31 | 0.42 | III Intuitive | 2.13 | 1.35 |
| | IV Initiative | 0.65 | 0.49 | IV Punishing | 1.92 | 2.05 |
| | V Belief in destiny | 1.43 | 0.48 | V Authoritarian | 0.68 | 0.50 |
| | VI Rigid planning | 1.01 | 0.31 | VI Conforming | 0.93 | 0.47 |
| Weak self-control | I Planfulness | 3.73 x | 4.29xx | I Supporting | 0.37 | 0.98 |
| | II Weak self-control | 0.25 | 1.07 | II Sacrificing | 0.40 | 2.05 |
| | III Anomia | 0.38 | 0.99 | III Intuitive | 0.87 | 1.38 |
| | IV Initiative | 1.30 | 1.71 | IV Punishing | 0.34 | 0.66 |
| | V Belief in destiny | 0.03 | 0.59 | V Authoritarian | 0.40 | 0.71 |
| | VI Rigid planning | 0.87 | 1.20 | VI Conforming | 0.63 | 1.45 |

for the six factors of general maternal behaviour and the six factors of child rearing behaviour for two life change scores and the three child behaviour factors. An inspection of Table 32 shows that only two F-values are significant. These are further studied in Figure 15.




F(tot) 5,105=4.29, p/ .01
F(int) 2,105=0.01, n.s.
F(change) 2,107=2.13,n.s.
F(planf.) 1,107=18.8,p/.001

F(tot) 5,105=3.73,p/.05
F(int) 2,105=0.40, n.s.
F(change)2,107=0.50 n.s.
F(planf.) 1,107=18.01 p/.001

x= p<.05, xx= p<.01

Figure 15. Means of factor score of weak self-control in child in groups based on high and low maternal planfulness and weighted and unweighted change

Figure 15 shows that a weak self-control is connected with low planfulness in the mother, quite in line with what might be assumed on the basis of the results of the study Aggression Risk Groups (1975). In examining the high change group, it can be seen that when the mother exhibits high planfulness, the child does not show weak self-control. Planfulness therefore seems to counteract the influence of change. It can also be observed that the results is much the same for both types of life change scores. A further observation is that the relation holds on-

ly for weak self-control in the child, not for strong self-control or activity-passivity (see Table 32).

Although all other F-total values were insignificant in Table 32, of the 216 possible t-values, 15 were significant, 10 other in addition to the five reported above. In all, 9 were for weak self-control, four for activity-passivity and two for strong self-control.

A look at Pulkkinen's nine original scales in relation to the above variables showed that there were 12 significant total F-values out of 216 comaprisons. Of these 12, five concerned the scale of weak self-control, measured by the item 'Has short attention span, difficulties in concentrating' etc. The results of the two-way analyses of variance are presented in Table 33 and the results in graphic form in Figure 16.

Figure 16. Mean of Pulkkinen's scale measuring weak self-control in the child in groups with small, medium and high life change frequency and high and low on factors of maternal behaviour

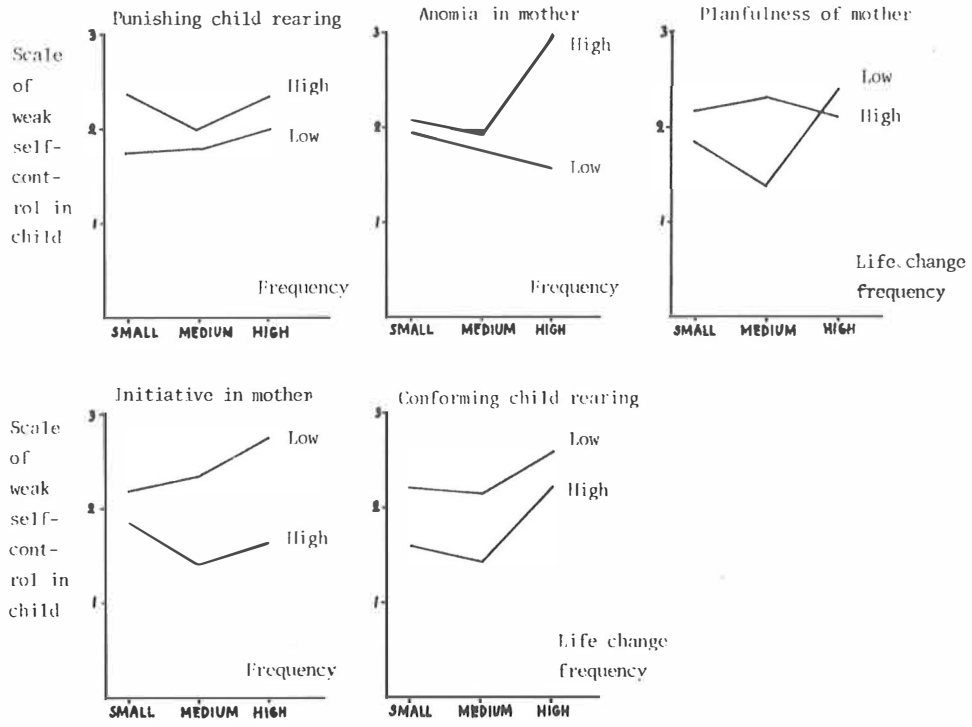


Table 33. Two-way analyses of variance of Pulkkinen's item measuring weak self-control (variable 408) in groups with small, medium or high life change frequency and high or low on factors or maternal behaviour

| Punishing child rearing | | Life change frequency: Small | Medium | High |
|---|---|---|---|---|
| High | M | 2.78 | 1.90 | 2.62 |
| | s | 1.09 | 1.10 | 1.12 |
| | N | 9 | 10 | 13 |
| Low | M | 1.75 | 1.76 | 2.00 |
| | s | 0.97 | 1.02 | 1.04 |
| | N | 28 | 29 | 12 |
| | t | 2.69 | 0.44 | 1.42 |
| | df | 35 | 46 | 23 |
| | p< | .05 | ns | ns |

F-values

F(tot) 5,104=2.58 p<.05
F(int) 2,104=1.61 ns
F(B) 2,106=1.62 ns
F(A) 1,106=5.71 .05

A= maternal behaviour
B= life change

| Anomia in mother | | Life change frequency: Small | Medium | High |
|---|---|---|---|---|
| High | M | 2.05 | 1.90 | 2.93 |
| | s | 1.10 | 0.97 | 1.12 |
| | N | 20 | 20 | 13 |
| Low | M | 1.94 | 1.75 | 1.67 |
| | s | 1.09 | 1.11 | 0.65 |
| | N | 17 | 28 | 12 |
| | t | 0.32 | 0.49 | 3.40 |
| | df | 35 | 46 | 23 |
| | p< | ns | ns | .01 |

F-values

F(tot) 5,104=2.67 p<.05
F(int) 2,104=2.81 ns
F(B) 2,106=1.59 ns
F(A) 1,106=3.70 ns

Table 33. (continued)

| | | | Life change frequency | | |
|---|---|---|---|---|---|
| | | | Small | Medium | High |
| Planfulness in mother | High | M | 1.83 | 1.46 | 2.43 |
| | | s | 0.99 | 0.71 | 1.22 |
| | | N | 18 | 26 | 14 |
| | Low | M | 2.19 | 2.33 | 2.11 |
| | | s | 1.11 | 1.23 | 0.78 |
| | | N | 16 | 22 | 9 |
| | | t | -0.99 | -2.69 | 0.69 |
| | | df | 32 | 46 | 21 |
| | | p< | ns | .05 | ns |

F-values

F(tot) 5,99 =2.37 p<.05
F(int) 2,99 =2.11 ns
F(B) 2,101=1.95 ns
F(A) 1,101=3.90 ns

| | | | Life change frequency | | |
|---|---|---|---|---|---|
| | | | Small | Medium | High |
| Initiative in mother | High | M | 1.87 | 1.44 | 2.12 |
| | | s | 1.14 | 0.80 | 0.78 |
| | | N | 23 | 8 | 17 |
| | Low | M | 2.21 | 2.29 | 2.75 |
| | | s | 0.98 | 1.15 | 1.58 |
| | | N | 14 | 21 | 8 |
| | | t | -0.94 | -2.99 | -1.35 |
| | | df | 35 | 46 | 23 |
| | | p< | ns | .01 | ns |

F-values

F(tot) 5,104=2.96 p<.05
F(int) 2,104=0.58 ns
F(B) 2,106=2.61 ns
F(A) 1,106=9.74 .01

Table 33. (continued)

| Conforming child rearing | | Life change frequency: Small | Medium | High |
|---|---|---|---|---|
| High | M | 1.63 | 1.48 | 2.19 |
| | s | 1.03 | 1.42 | 0.91 |
| | N | 16 | 25 | 16 |
| Low | M | 2.29 | 2.17 | 2.56 |
| | s | 1.06 | 1.15 | 1.42 |
| | N | 21 | 23 | 9 |
| | t | 1.91 | -2.41 | -0.79 |
| | df | 35 | 46 | 23 |
| | p< | ns | .05 | ns |

F-values

| | | |
|---|---|---|
| F(tot) | 5,104=2.73 | p<.05 |
| F(int) | 2,104=0.21 | ns |
| F(B) | 2,106=2.62 | ns |
| F(A) | 1,106=9.47 | .01 |

A look at the F-values in Table 33 for the effects of maternal behaviour (A-effects) shows that it is significant for initiative, punishing child rearing, and conforming child rearing. A look at the means shows that, on the whole, weak self-control in connected with a high punishing child rearing and a low degree of initiative in the mother, as well as a conforming child rearing attitude. None of the interactions were significant, as can also be seen in Figure 16.

The result for anomia is especially interesting. Table 33 and Figure 16 show that a high degree of anomia in the mother, combined with a high life change, is connected with weak self-control in the child. The t-value in the high life change groups for high and low maternal anomia is significant at the .01 level. The small and medium change groups do not differ in this respect.

### 5.5.4. Maternal factors in relation to life change and behavioural problems

A second part of the analysis concerned the modifying effect of maternal factors on behavioural problems in the child in connection with life change. An inspection of the total F-values in shown in Table 34.

Table 34. Total F-values for two-way analyses of variance for the sum of behavioural problems in relation to factors of maternal behaviour and weighted and unweighted life change

| Factor | Weighted change | Unweighted | Factor | Weighted change | Unweighted |
|---|---|---|---|---|---|
| Planfulness | 1.88 | 2.18 | Supporting child rearing | 1.62 | 1.23 |
| Weak self-control | 1.56 | 1.97 | | | |
| Anomia | 4.01xx | 2.48x | Sacrificing child rearing | 2.05 | 1.76 |
| Initiative | 1.20 | 2.02 | | | |
| Belief in destiny | 1.99 | 1.42 | Intuitive child centeredness | 1.63 | 3.09x |
| Rigid planfulness | 1.45 | 1.67 | Punishing child rearing | 1.84 | 2.07 |
| | | | Authoritarian child rearing attitude | 1.36 | 2.23 |
| | | | Conforming child centeredness | 2.97x | 2.77 |

An inspection of Table 34 shows that there were four total F-values out of 24 which were significant. These analyses are studied further in Table 35 and the results are shown in graphic form in Figure 17.

Table 35. Results of two-way analyses of variance of sum of behavioural problems in groups with varying amount of life change and high or low on maternal factors

| | | | Weighted life change | | |
|---|---|---|---|---|---|
| | | | Small | Medium | High |
| Anomia in mother | High | M | 2.81 | 2.00 | 6.43 |
| | | s | 2.07 | 1.81 | 5.53 |
| | | N | 16 | 16 | 7 |
| | Low | M | 2.36 | 1.91 | 2.00 |
| | | s | 2.95 | 2.16 | 1.96 |
| | | N | 22 | 22 | 13 |
| | | t | 0.52 | 0.17 | 2.64 |
| | | df | 36 | 51 | 18 |
| | | p< | ns | ns | .05 |

F-values

F(tot) 5,105=4.00 p<.01
F(int) 2,105=5.21 .05
F(B) 2,107=3.44 ns
F(A) 1,107=3.52 ns

A= maternal behaviour
B= life change

| | | | Life change frequency | | |
|---|---|---|---|---|---|
| | | | Small | Medium | High |
| Anomia in mother | High | M | 2.15 | 2.15 | 4.71 |
| | | s | 1.73 | 1.53 | 4.71 |
| | | N | 20 | 20 | 14 |
| | Low | M | 2.35 | 1.89 | 2.25 |
| | | s | 3.00 | 2.11 | 2.38 |
| | | N | 17 | 28 | 12 |
| | | t | -0.26 | 0.46 | 1.64 |
| | | df | 35 | 46 | 24 |
| | | p< | ns | ns | ns |

F-values

F(tot) 5,105=2.48 p<.05
F(int) 2,105=2.18 ns
F(B) 2,107=2.94 .05
F(A) 1,107=1,53 ns

Table 35. (continued)

| | | | Life change frequency | | |
|---|---|---|---|---|---|
| | | | Small | Medium | High |
| Intuitive child rearing | High | M | 2.06 | 2.25 | 4.69 |
| | | s | 2.04 | 1.98 | 4.48 |
| | | N | 18 | 32 | 16 |
| | Low | M | 2.42 | 1.50 | 1.80 |
| | | s | 2.67 | 1.59 | 2.04 |
| | | N | 19 | 16 | 10 |
| | | t | 0.47 | 1.31 | 1.91 |
| | | df | 35 | 46 | 24 |
| | | p< | ns | ns | ns |

F-values

F(tot) 5,105=3.09 p<.05
F(int) 2,105=2.95 ns
F(B) 2,107=3.26 .05
F(A) 1,107=2.79 ns

| | | | Life change frequency | | |
|---|---|---|---|---|---|
| | | | Small | Medium | High |
| Conforming child rearing | High | M | 1.31 | 1.92 | 2.81 |
| | | s | 1.40 | 1.75 | 2.69 |
| | | N | 16 | 25 | 16 |
| | Low | M | 2.95 | 2.09 | 4.80 |
| | | s | 2.71 | 2.04 | 5.35 |
| | | N | 21 | 23 | 10 |
| | | t | -2.20 | -0.30 | -1.26 |
| | | df | 35 | 46 | 22 |
| | | p< | .05 | ns | ns |

F-values

F(tot) 5,105=2.77 p<.05
F(int) 2,105=1.33 ns
F(B) 2,107=3.81 .05
F(A) 1,107=4.60 ns

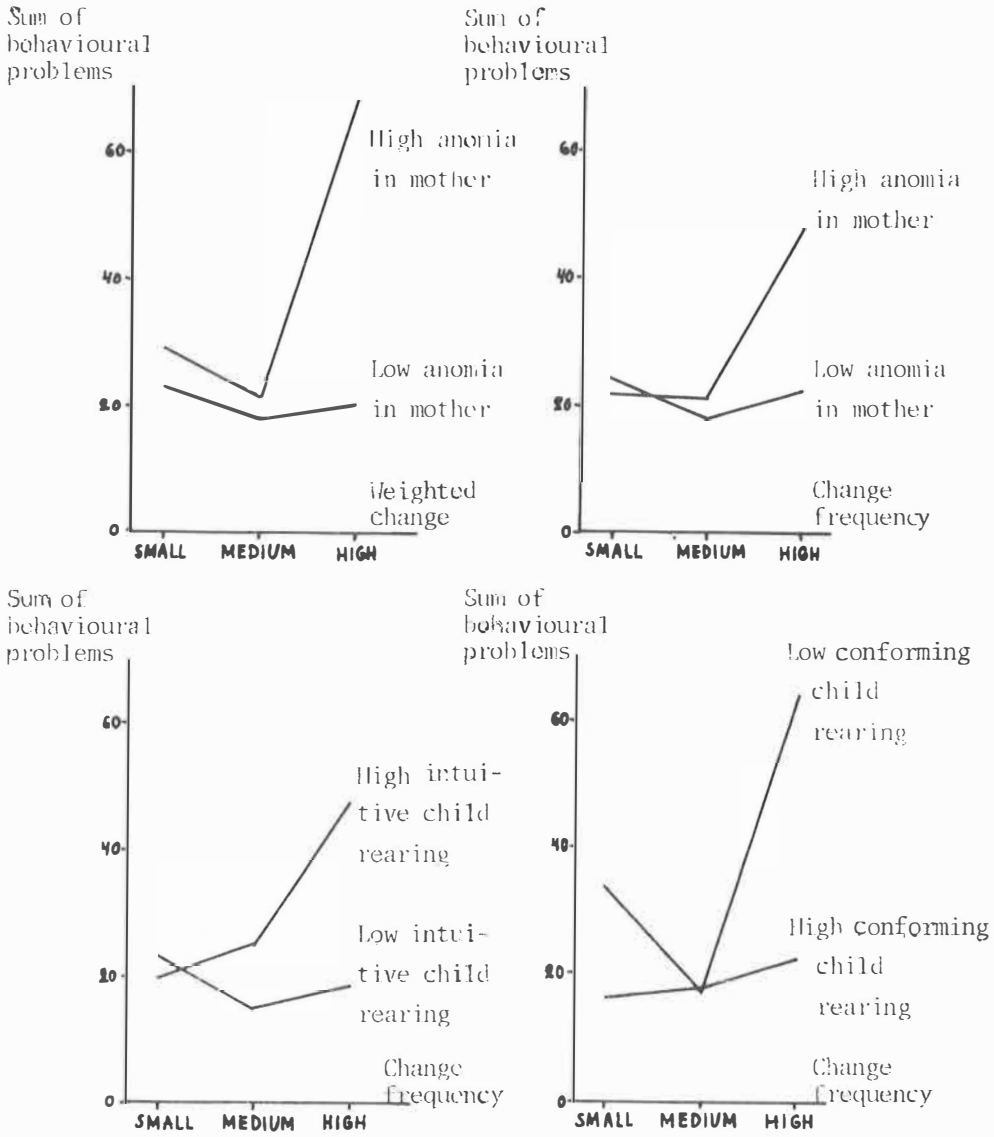



Figure 17. Sum of behavioural problems in life change groups and in relation to factors of maternal behaviour

Figure 17 shows that the differences between groups differing on maternal anomia and intuitive child rearing are especially large in the high change groups, for anomia in both the weighted and unweighted life change groups. For the former groups, the difference is significant at the 5 per cent level. All these results, although not significant, point to the fact that, combined with a high life change, weaknesses in maternal behaviour in the form of anomia, for instance, are related to weak self-control in the child.

It may be noticed that the same result was obtained for anomia in the mother and tension in the child for the year preceding the interview, difficulties in concentrating prior to that time and weak self-control in the mother, as well as a low degree of planfulness, low initiative and low supporting child rearing and a high degree of anomia in the mother. In the last case, the t-value for the high weighted change groups was 5.41 (df 18) ($p<.001$), a high degree of anomia in the mother being connected with difficulties in concentrating in the child. For the small and medium change groups, the difference as regards maternal behaviour was almost nonexistent.

## 5.6. Discussion

This study concerned the modifying effect of maternal factors on the relationship between life change and child behaviour. The hypothesis was that when the mother is well adjusted and possesses features which enable her to cope with life events and support the child, the child shows better self-control and fewer behavioural problems.

Because of the fact that there were twelve factors of maternal behaviour, including child rearing, and several dependent variables as well, it is impossible to state anything in general terms concerning a possible relation of maternal behaviour to child behaviour in groups with a differing amount of self-control. The relations are quite specific, partly due to the fact that the factors of maternal behaviour differ both as to their relevance in this connection and as to their validity.

The most general conclusion is that when the mother shows signs of bad adjustment, e.g. anomia, a lack of planfulness, or weak self-control, this feature is connected with behavioural problems in the child

in the high life change group. The relations of the variables conform to the model in Figure 18.

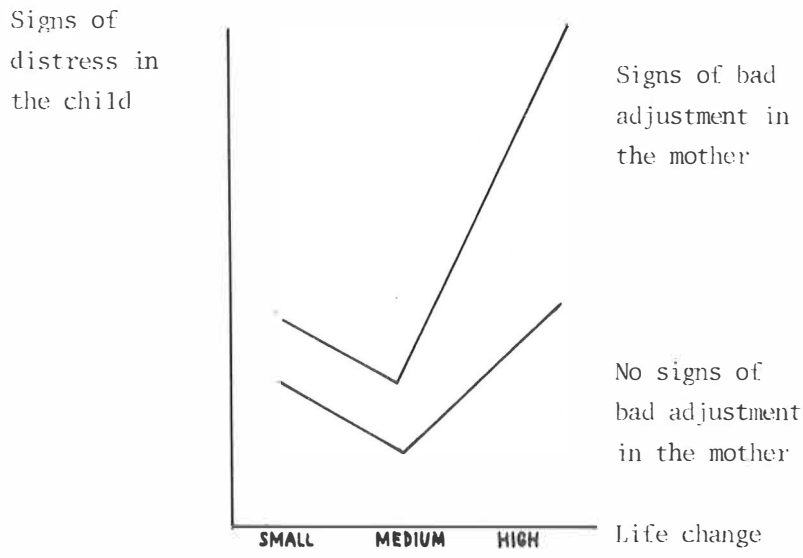



Figure 18. Model of the relation of adjustment of mother, life change and child behaviour

Figure 18 may also be interpreted as showing the beneficial effect of the social support that a well adjusted, planful, non-anomic mother with strong self-control and high self-esteem is able to give the child.

The main difficulty of this study lies in its design, which makes the drawing of causal conclusions extremely difficult. The study relies mostly on correlational data. The situation is further complicated by the fact that the design is retrospective. A third point which should be taken into account in drawing conclusions is that the data concerning child behaviour and maternal behaviour is obtained from the mother, a problem which Radke-Yarrow (1963) also points out. In a retrospective study it may be asked, however, whether the mother is not the best reporter of at least psychosomatic symptoms in the child over a longer time period. In later studies, the results concerning child behaviour may also be followed up through the use of other data sources.

One of the new findings of this study was the extraction of a planfulness factor which is the opposite to impulsive behaviour. The result fills the gap of positive variables in personality research (see Konttinen 1968). In future studies, maternal planfulness should be

related to other constructs. It would be interesting to study the development from weak self-control during childhood to its corresponding forms during adolescence, as Pulkkinen, in an unpublished study has done, and analyze the relation of such behaviour with planfulness. It may be supposed that planfulness forms one part of the concept of self-control.

The child rearing factors in this study were based on interview answers whereas the factors of general maternal behaviour were based on questionnaires. In general, the communalities of the interview variables were lower than those of the questionnaire variables. This shows the difficulty of forming variables on the basis of answers to semi-structured interviews. Despite the fact that many of the variables were derived from the study Aggression Risk Groups(1975),and proved useful there, they did not work well in this study. In all, it might have been wise to include fewer themes in the interview and to have had fewer variables.

A factor common to both the life planning and child rearing analyses was the emergence of a factor closely related to social desirability. Edwards (1957) comments that all statements about people can be placed somewhere on this dimension. He also states that there are individual differences in the tendency among people to give socially desirable responses to statements in personality inventories. To measure this tendency, different scales, e.g. the SD (social desirability) scale of the MMPI, have been constructed. Related concepts are making a good impression and acquiescence (Dicken 1963). In fact, a tendency to respond in a socially desirable manner correlates strongly with, for instance, anxiety (Edwards 1957). The same tendency was also seen in this study, where items measuring weak self-esteem and neuroticism had high loadings on the factor closest to social desirability (the rigid planfulness factor). The problem is whether to consider the measured behaviour "real" or a complicating factor, the influence of which should be minimized. As the results showed, for instance, that mothers high on the conforming child rearing factor rated their children as having fewer difficulties in concentrating and having had fewer illnesses, the relations between the variables might be even stronger in reality. A tendency not to report negative things seems to be operating at that point.

# 6. IMPLICATIONS OF THE RESULTS

The task of this final chapter is to draw a picture of the instability of a Finnish child's environment and the factors in the family which are connected on the basis of the results of the four studies. The analysis aims at a model depicting the relations of life events, maternal behaviour and child behaviour.

It seems evident that the right of the child to a harmonious environment is not yet present in Finland. There are children who have experienced up to 11 changes of residence, or six changes of community, before the age of 13. There are children who have had up to 15 different caretakers before the age of seven, the parents of about 13 per cent of the children are divorced, etc. The situation is especially alarming when the same child experiences a series of different changes. For instance, 5 % of the children had experienced 30 or more events.

The interviews with the mothers showed that some children show very strong reactions indeed to the events. They may regress, for instance, and begin bedwetting at an age where this is not common. Some children withdraw, become inaccessible and are unable to speak about the problems, whereas others show a clear increase in aggression.

Not all children react equally strongly to the changes. Some children seem to have developed quite good coping mechanisms and they recover well even from serious events. It seems that these children already possessed some properties prior to the events which enabled them to endure. They were, on the whole, quite well adjusted, had many friends and many leisure activities. Another central factors was the relationship to the parent(s), which was a close and affectionate one. There seemed to be a mutual understanding between the mother and her child. These mothers mostly left a relaxed and calm impression, but at the same time, they seemed full of activity. In many cases, they were full of optimism in spite of the often quite dramatic events which they had gone through and they had tried to make the best out of life for themselves and their children.

It seems obvious that the interrelations of maternal behaviour, child behaviour and life events constitute a complicated process with bi-directional effects, which might be depicted as in Figure 19.

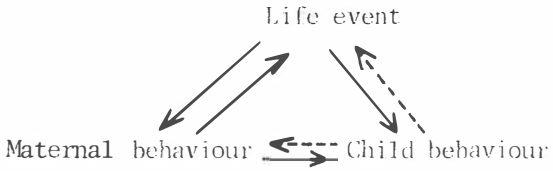



Figure 19. The interrelations of life events, maternal behaviour and child behaviour

The mother's own adjustment and her personality are important for her to support the child. This fact was clearly reflected in the empirical results. The child's weak self-control was related to a low degree of planfulness in the mother. An examination of Appendices 10 and 11 shows that Pulkkinen's scale measuring weak control correlates with maternal items in quite the same direction as planfulness. A child with weak self-control often has a mother who does not consider her life to be very useful, who lacks initiative, has a short attention span, lacks self-confidence, has difficulties in carrying out her plans and usually does what others want her to do. She does not think the future looks bright and does not consider the child in her future plans. Together these factors depict a woman who acts impulsively, and often egoistically, instead of taking the child into account and planning family life; who has difficulties in controlling her temper, and therefore probably also acts impulsively and inconsistently in child rearing situations; who does not believe in her own abilities and shows a high degree of self-denigration. She also considers herself impotent to influence the flow of events and believes that things are determined by destiny, luck, or chance.

All the above factors, taken together, may influence, first, her child. Her capricious child rearing leads to anxiety in the child, who does not know what to expect, and her inability to control herself is transmitted to the child by modelling. Secondly, her behaviour

probably influences the occurrence of life events. Her lack of planfulness and her weak self-control may lead to an inability to resist events, so that she instead drifts into them. Her weak self-control also leads to restlessness and this is seen as an active search for change. Her behaviour is, to a large extent, guided by the pleasure principle. She may, for instance, want to change community just to experience a change, but does not take the child into account. The lack of planfulness, combinted with weak self-esteem, also makes it quite difficult for her to take steps once life events have happened.

At the same time, the child reacts to the life events with behavioural and psychosomatic problems. The novelty and surprisingness of the situations is intensified by the fact that the mother does not, perhaps, explain the events to the child. His incipient anxiety is reinforced, and he soon develops weak self-control, often seen as aggressive behaviour. He learns that life is characterized by instability and changes, and may become afraid of making close relationships.

The same life events influence his mother. She may soon develop what has been termed 'learned helplessness' (Abramson et al.'s 1978), because she feels that she is not in control of the events. In fact, there is a vicious circle.

Figure 20 gives one example of what the line of development might be like in this case. The model starts with the assumption that the mother's personality is already quite shaped, partly by former life events. Pulkkinen's (1980) recent, unpublished data strongly point to the fact that weak self-control develops into clear patterns of adolescent behaviour, and it seems safe to assume that the development continues into adulthood.

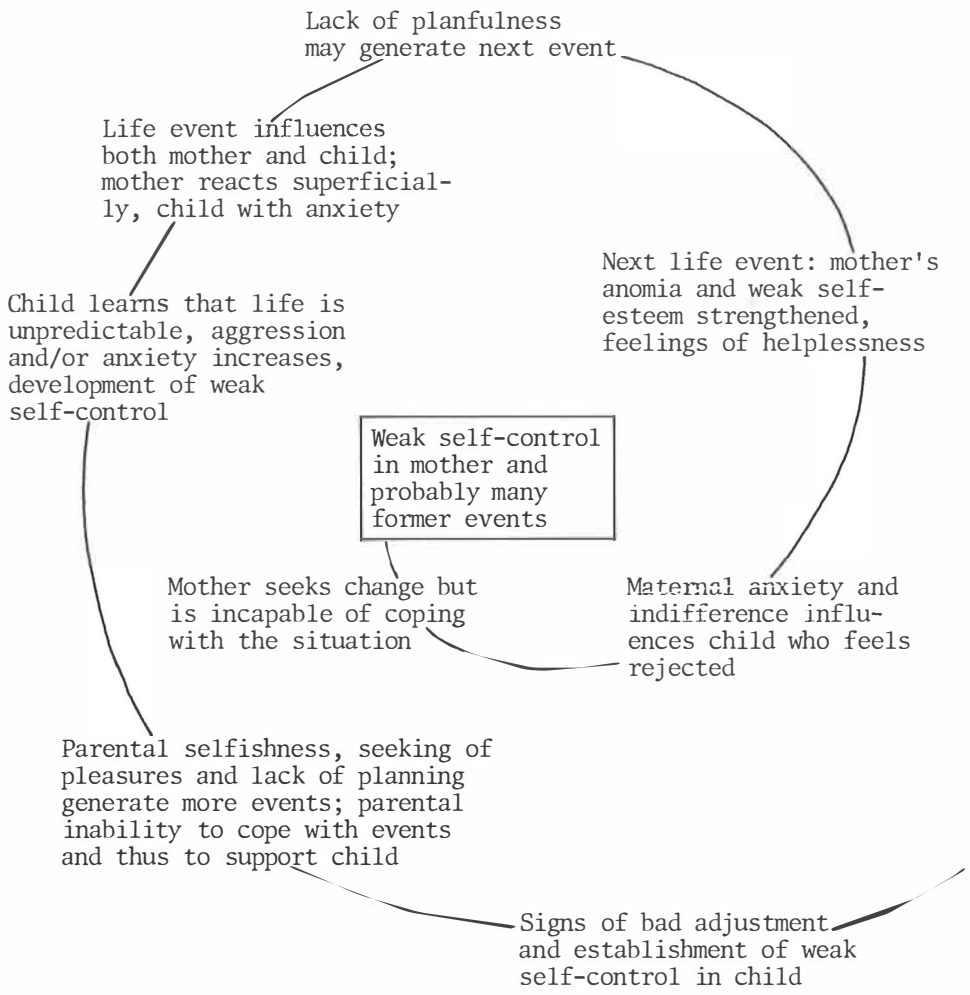



Figure 20. Line of development from weak self-control in the mother to weak self-control in the child

The situation opposite to the one depicted above is one which can even be regarded as too stable. There are no changes of community or residence, the child is cared for at home during all his life, he may be the only child, etc. This sort of environment is not the best possible for the child, as the results of this study have shown. In line with the U-hypothesis of stress, the children of the small change group also showed relatively many behavioural problems and their self-control was weaker than in the medium change group. For these children, there are not enough data to be assimilated and to form the basis with which incoming information can be compared. These children have no opportunity to learn how to cope with difficulties and may therefore react to single changes with much distress.

The optimum environment for the child is one where there are changes, but not too many of them. It seems quite probable that this situation is also the consequence of parental behaviour. In this case, the mother probably has strong self-control, strong self-esteem, is rather planful, has initiative, and her child rearing is supportive. She, naturally, encounters life events, and even strives towards changes, but mostly changes which are as beneficial as possible for her child. In pondering changes, she takes the future into account and deliberates upon the different alternatives for action. She explains the events to the child in advance, if it is possible to forsee the events. When the events take place, she again shows deliberation and strong self-control, thus being able to support the child.

The two types of behaviour depicted above are, of course, generalizations, and hardly any mother shows all the behaviour, at least not in connection with every life event. It should also be remembered that the examples are only hypothetical. Although they seem quite plausible on the basis of the results of this study and other evidence as well, they should be strictly tested in future, prospective research. Stress should be laid on the use of different data sources for obtaining data concerning child behaviour and maternal behaviour. The idea of prospective life event research also contains the measurement of behaviour at different points in time to allow inferences to be drawn concerning the causal relations of life events and behaviour. The results of this study shows some of the central maternal factors which should

be studied, but there are other factors which should be the target of analysis as well.

The results may also be analyzed in relation to the model of life event mediation presented in the introductory chapter. It was stated that the model is applicable to a life-span analysis of life events. The line of development depicted in Figure 20 in fact shows that life events may accumulate, depending on both the predisposing factors and the coping responses of the individual, and they thus cover and determine his whole life-span.

In the case of families with children, it would seem possible to refine the model of Figure 1. This attempt is presented in Figure 21.

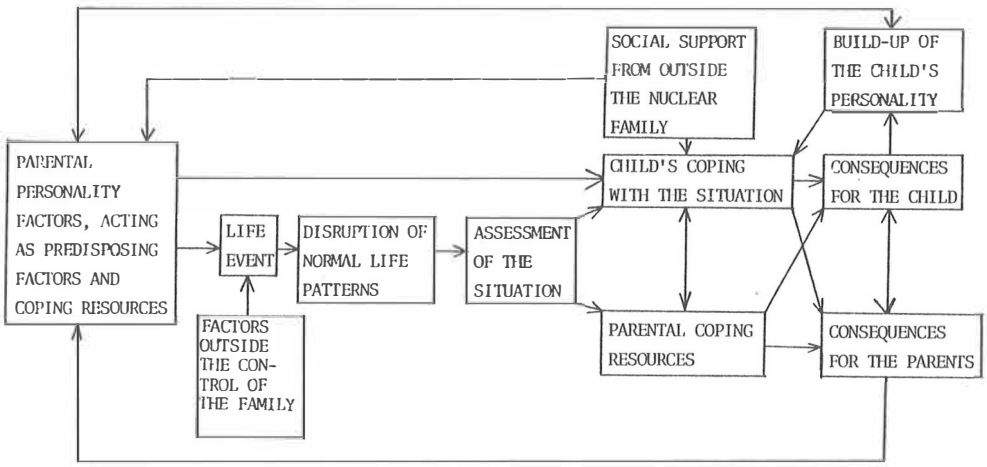



Figure 21. Life event mediation in the family system

The model in Figure 21 depicts the causation, mediation, modification and consequences of life events in the family system with interacting individuals. The life event may be caused by the parents, i.e. because of their control and the event may be dependent on their decisions. The personality of the parents, e.g. their degree of self-control, may here be decisive. There are, however, also life events which are outside parental control, e.g. an accident or unemployment as a consequence of a factory shut-down. In both cases, the life event leads to a dis-

ruption of normal life patterns, which in turn leads to an assessment of the situation by both the child and his parents. The parents may resort to their coping responses, including child rearing actions. The child may use his habitual coping strategy in the situation, e.g. he may react with anxiety or aggression, or he may be able to find a constructive solution to the situation. The coping strategies of the parents and the child also interact and they are both influenced by the availability or the absence of social support. After the coping phase is over, the event has or has not had some consequences on both the child and the parents, and, if so, these again interact. These possible consequences in turn influence both the child's and the parents' personalities.

The intention of the model in Figure 21 was to show that in treating children's life events the whole family has to be taken into account. Different family members interact and their reactions influence each other. Another aim of the figure was to show that a life event is seldom an isolated occurrence. Instead, it may have its cause in the family and it influences the whole family system in turn. This type of systems view of children's life events has not yet been considered in the literature and it is an urgent taks of empirical research to study its determinants.

## 7. SUMMARY

The aim of this study has been to analyze a relatively new concept in psychological research, viz. the instability of the child's environment, which is based on the occurrence of such events as deaths, changes of day-care arrangements, changes of residence, divorces, etc.

Methodologically, the study represented the life event research tradition, introduced by Holmes and Rahe in 1967. It was seen as the most developed way of quantifying environmental instability. The theoretical frame of reference was eclectic. It combined elements from stress theory, McReynolds' theory concerning the impact of cognitive incongruences and Pulkkinen's theory concerning the self-control of children.

The study covered the most central phases of life event research in presenting ratings of the seriousness of events and rates of occurrence, as well as data concerning the impact of change and the effects of modifying factors on the impact of life events. The study was divided into four parts, each treating one of these problems.

Study A consisted of ratings made by child guidance workers on how much readjustment the 30 events (e.g. death, divorce, change of caretaker) included in a life event rating list each require at four age levels.

The results showed that the death of the mother was rated as the most serious event at all age levels. A divorce and an illness of the parents were also rated as quite serious. There were considerable differences between seriousness ratings for the age groups. The results also showed that, among experts in the field, there is a high degree of consensus concerning the seriousness of the life events in a child population. The re-test reliability of the ratings was very high, about .85. There was a remarkably high correspondence with data obtained elsewhere (Coddington 1972a, Monaghan et al. 1979), especially when the wording of the events was identical.

A factor analysis of the ratings revealed that judges assess the readjustment of events on the basis of a few general dimensions: serious changes in the nuclear family, subsistence, the child's direct changes, hospitalization, and deaths outside the nuclear family.

Study B consisted of gathering data about the occurrence of both single events and an index of environmental change or life change

consisting of a sum of events weighted with the readjustment ratings from Study A. The subjects consisted of approximately 450 families with a 12 to 13-year-old child from the ordinary classes in Jyväskylä. The parents answered a mailed questionnaire indicating at what age the child had experienced the changes.

The occurrence of single events corresponded quite well to the results of former studies. The study showed that there were children who had experienced more than ten changes of residence, for instance, or that six children had had more than 14 caretaking periods before school age.

An inspection of the change frequency measure showed that, on average, the children had experienced about fifteen of the events in the list, but five per cent of the children had experienced as many as 30 events or more. The distribution of the change frequency measure was quite skewed, indicating that only a small number of children had been unfortunate enough to experience many changes.

The results for the weighted life change score resembled those of the change frequency, but the distribution was even more skewed. In analyzing the results for different age groups, it resulted that the children had had the largest amount of life change when two years old.

The life change measures were analyzed in relation to certain background variables. As expected, no social class differences were found, neither were there any differences between the sexes, whereas children whose mothers were under 22 at the birth had experienced significantly more changes than children of older mothers, especially during their preschool years.

In Study C, the mothers' assessments of the impact of life events on their children were studied. The subjects were 111 mothers, drawn from the respondents of the life event questionnaire in Study B. The mothers were interviewed with the thematic interview, a semi-structured type of method. During the interview, the mothers also rated the child's personality in addition to his behavioural problems.

The results showed that the mother rated the impact of the birth of a sibling, her hospitalization and a change of school as having quite a negative impact on her child in many cases (besides the negative impact of a divorce, a death, etc.) The result is interesting because former knowledge on these changes is lacking.

The occurrence of behavioural problems corresponded quite well to data from former studies. The results showed that the number of behavioural problems was highest in a group which had experienced the highest amount of life change. The result corresponded to the hypothesis.

In assessing the child's personality, Pulkkinen's (Pitkänen 1969) rating scale was applied. It has usually been filled out by teachers and peers, but the result showed that it is also possible to use it with mothers. In line with assumptions, weak self-control was related to the amount of change experienced by the child. Moreover, the assumption that there is a U-shaped relation between stress and its consequences was confirmed, as the small change group showed more problems and more weak self-control than the medium change group, which in its turn was lower on these measures than the high change group. The difference between the first two groups was, however, nonsignificant.

The subjects of Study D were the same as in Study C. Study D aimed at an analysis of the effects of modifying factors on the relationship between life change and child behaviour. It was assumed that mothers have to cope with changes and give the child social support. How well they succeed in this task primarily depends on their style of child rearing. It was assumed that a supporting child rearing, with a combination of warmth and firmness, would be beneficial in counteracting the influences of change. Secondly, it was assumed that planfulness, or life planning, would help in coping with life events. Successful coping was assumed to depend also on the mother's high self-esteem, internal control and a lack of anomia, as well as on future orientation and a high degree of initiative and activity.

Child rearing was measured through the interview, while life planning and related variables were measured using two questionnaires constructed for this study. A factorization of the questionnaire variables showed that it is possible to isolate a planfulness factor. In factorizing the child rearing variables, the analysis revealed a supporting child rearing factor. Some quite interesting results also emerged because of the use of variables not employed in former studies.

The results showed that planfulness in the mother was related to the lack of weak self-control in the child. The main result for the

modifying effect of maternal behaviour was that, in the high change group especially, factors showing a lack of adjustment in the mother were related to weak self-control in the child. This relation was especially clear for maternal anomia.

The retrospective and correlational design of Study C and Study D makes it difficult to draw absolute inferences as regards causal relations between maternal behaviour, life events and child behaviour. A model depicting two lines of possible development was presented as a synthesis of the results, showing the interrelations of these three factors and the author's model (Hurme 1978a) of life event mediation, presented in part 1.2.4.1. was extended to cover the family system.

TIIVISTELMÄ: Lasten elämänmuutokset

Tämän tutkimuksen tarkoituksena oli analysoida suhteellisen uutta käsitettä psykologisessa tutkimuksessa, nimittäin lasten kasvuympäristön epävakaisuutta, joka muodostuu sellaisista tapahtumista kuin kuolema, päivähoitovaihdokset, asunnon vaihdot, erot jne.

Metodisesti tutkimus edustaa elämänmuutostutkimustraditiota, jonka Holmes ja Rahe aloittivat vuonna 1967. Tämä tuntui kehittyneimmältä menetelmältä ympäristön epävakaisuuden kvantifioimiseksi. Tutkimuksen teoreettinen viitekehys on eklektinen. Siinä yhdistyy stressiteorian elementtejä McReynoldsin teoriaan kognitiivisesta inkongruenssista ja Pulkkisen teoriaan lasten itsehallinnasta.

Tutkimus kattaa elämänmuutostutkimuksen keskeisimmät vaiheet. Siihen sisältyy arvioinnit tapahtumien vakavuudesta, niiden esiintymistiheys samoin kuin tietoa muutoksen vaikutuksista ja muuntavien tekijöiden osuudesta elämänmuutosten vaikutukseen. Tutkimus muodostuu neljästä osasta, joista kukin käsittelee yhtä näistä alueista.

Tutkimus A muodostuu kasvatusneuvolatyöntekijöiden arvioista siitä, miten paljon uudelleensopeutumista kukin 30:sta tapahtumasta (esim. kuolema, ero, päivähoitajan vaihto), jotka sisältyivät elämänmuutosten arviointilomakkeeseen, vaatii neljällä ikätasolla.

Tulokset osoittivat, että äidin kuolema arvioitiin vakavimmaksi muutokseksi kaikilla ikätasoilla. Myöskin ero ja vanhempien sairaus arvioitiin suhteellisen vakaviksi. - Ikäryhmien vakavuusarvioinneissa oli melko suuria eroja. Tulokset osoittivat myös, että kasvatusalueen asiantuntijoiden keskuudessa vallitsee suuri yksimielisyys lasten elämänmuutosten vakavuudesta. Arviointien uusintatestausreliabelius oli hyvin korkea, noin 0,85. Muualla (Coddington 1972a, Monaghan ym. 1979) suoritettuihin tutkimuksiin verrattaessa havaittiin harvinaisen korkea yhtäpitävyys, varsinkin kun muutosten sananmuoto on täysin vastaava.

Arvioinneista suoritettu faktorianalyysi osoitti, että arvioitsijat arvioivat tapahtumia muutaman yleisemmän ulottuvuuden suhteen: ydinperheen vakavat ihmissuhdemuutokset, toimeentulomuutokset, lapsen ympäristön muutokset ja sairaalaoleskelut, sekä ydinperheen ulkopuoliset kuolemat.

Tutkimuksessa B kerättiin tietoa sekä yksittäisten elämänmuutosten että ympäristön epävakaisuusindeksin esiintymisestä. Indeksi muodostui tutkimuksen A arvioinneilla painotettujen tapahtumien summasta.

Koehenkilöinä oli noin 450 12-13 vuotiasta lasta Jyväskylän normaaliluokilta. Vanhemmat täyttivät postitetun lomakkeen ja ilmoittivat, minkä ikäisenä lapsi oli kokenut kunkin muutoksen.

Yksittäisten muutosten esiintyminen vastasi hyvin aikaisempien tutkimusten tuloksia. Tutkimus osoitti, että oli lapsia, jotka olivat kokeneet esimerkiksi enemmän kuin kymmenen asunnon vaihtoa tai että kuudella lapsella oli ollut yli 14 hoitojaksoa ennen kouluikää.

Muutosfrekvenssimitan tarkastelu osoitti, että lapset olivat kokeneet keskimäärin viisitoista lomakkeen muutoksista, mutta että viisi prosenttia lapsista oli kokenut jopa 30 muutosta enemmän. Elämänmuutosfrekvenssimitan jakautuma oli melko vino. Tämä osoitti, että vain pieni joukko lapsia oli kokenut monia muutoksia.

Painotetun elämänmuutosindeksin osalta tulos muistutti muutosfrekvenssiä, mutta jakautuma oli vieläkin vinompi. Kun tarkasteltiin ikäryhmittäisiä tuloksia ilmeni, että lapset olivat kokeneet eniten elämänmuutoksia kahden vanhana.

Elämänmuutosmittoja tarkasteltiin suhteessa taustamuuttujiin. Odotetusti ei ollut sosiaaliluokkaeroja eikä sukupuolieroja, mutta sen sijaan ne lapset, joiden äidit olivat olleet 22 vuotta tai alle synnyttäessään heidät, olivat kokeneet merkitsevästi enemmän muutoksia kuin vanhempien äitien lapset, erityisesti esikouluvuosinaan.

Tutkimuksessa C tarkasteltiin äitien arvioita elämänmuutosten vaikutuksista heidän lapsiinsa. Koehenkilöinä oli 111 äitiä, jotka oli arvottu tutkimuksen B lomakkeeseen vastanneista. Äitejä haastateltiin teemahaastattelulla, joka on puolistrukturoitu menetelmä. Haastattelun aikana äidit myös arvioivat lapsensa persoonallisuuden samoin kuin tämän osoittamat käyttäytymisongelmat.

Tulokset osoittivat, että äiti oli arvioinut sisaruksen syntymän, oman sairaalassaolonsa samoin kuin koulun vaihdon vaikutuksen lapseen suhteellisen kielteiseksi monissa tapauksissa (kuoleman, eron jne. negatiivisen vaikutuksen lisäksi). Tulos on mielenkiintoinen, koska näistä muutoksista puuttuu tietoa.

Käyttäytymisongelmien esiintyminen vastaa hyvin aikaisempien tutkimusten tuloksia. Tulos osoitti, että psykosomaattisten oireiden indeksi oli korkein ryhmässä, joka oli kokenut eniten elämänmuutoksia. Tulos oli hypoteesien mukainen.

Lapsen persoonallisuuden arvioimiseen käytettiin Pulkkisen (Pitkänen

1969) arviointiulottuvuuksia. Niitä on tavallisesti käyttäneet opettajat tai toverit, mutta tulos osoitti, että myös äidit voivat niitä käyttää. Oletusten mukaisesti lapsen heikko itsehallinta oli yhteydessä hänen kokemaansa runsaaseeen elämänmuutokseen. Myöskin oletus, että stressin ja sen seurauksien välillä on U-muotoinen yhteys, vahvistui, kun pienen muutoksen ryhmä osoitti enemmän käyttäytymisongelmia ja heikompaa itsehallintaa kuin keskisuuren muutoksen ryhmä, joka puolestaan sijoittui näillä mitoilla suuren muutoksen ryhmän alapuolelle. Kahden ensimmäisen ryhmän välinen ero ei kuitenkaan ollut merkitsevä.

Tutkimuksen D koehenkilöt olivat samat kuin tutkimuksessa C. Tutkimuksen D tarkoituksena oli selvittää muuntelevien tekijöiden osuutta elämänmuutoksen ja lapsen käyttäytymisen yhteydessä. Oletuksena oli, että äidit joutuvat selviämään muutoksista ja tarjoamaan lapselle sosiaalista tukea. Ensinnäkin heidän kasvatustyylinsä vaikuttaa siihen, miten hyvin he selviävät tästä tehtävästä. Oletettiin, että tukeva kasvatus, joka muodostuu sekä lämmöstä että lujuudesta, olisi eduksi muutoksen negatiivisuuden vastapainona. Toiseksi suunnitelmallisuus, tai elämänsuunnittelu, voisi auttaa tässä selviytymisessä. Oletettiin myös, että äidin korkea itsetunto, hänen sisäinen kontrollinsa ja vähäinen vieraantuminen samoin kuin tulevaisuussuuntautuminen ja suuri aloitteisuus olisivat eduksi.

Kasvatusta tutkittiin haastatteluin, elämänsuunnittelua ja siihen liittyviä muita muuttujia käyttämällä kahta tähän tarkoitukseen laadittua lomaketta. Lomakemuuttujien faktorointi osoitti, että on mahdollista eristää suunnitelmallisuusfaktori. Kasvatusmuuttujien faktoroinnissa ilmeni muiden faktoreiden ohella tukevan kasvatuksen faktori.

Tulokset osoittivat, että äidin suunnitelmallisuuden puute liittyi lapsen heikkoon itsehallintaan. Äidin käyttäytymisen muuntelevaa vaikutusta koskeva päätulos oli, että erityisesti suuren muutoksen ryhmässä lapsen heikkoon itsehallintaan ja käyttäytymisongelmiin liittyi äidin huonoa sopeutumista osoittavia muuttujia.

Tutkimusten C ja D retrospektiivinen ja korrelatiivinen luonne tekevät ehdottomien kausaalipäätelmien tekemisen mahdottomaksi äidin käyttäytymisen, elämänmuutosten ja lapsen käyttäytymisen yhteyksistä. Tutkimuksen viimeisessä osassa esitetään malli, joka kuvaa näiden muuttujien yhteyksiä sekä laajennetaan kirjoittajan (Hurme 1978a) luvussa 1.2.4.1. esitettyä mallia koskemaan perhesysteemiä.

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Appendix 1. Five factor varimax rotated solution of child rearing experts' ratings of seriousness of life event over age groups

| Event nr. | Event | Factor | | | | | |
|---|---|---|---|---|---|---|---|
| | | I | II | III | IV | V | $h^2$ |
| 2 | Mother's serious illness or injury | .85 | -.19 | .07 | .02 | .01 | .768 |
| 3 | Unemployment of parents | .27 | -.02 | .73 | .26 | .08 | .672 |
| 4 | Father's serious illness or injury | .85 | -.20 | .13 | .10 | .13 | .808 |
| 5 | Death of mother | .90 | -.12 | -.06 | -.11 | .08 | .819 |
| 6 | Divorce of parents | .87 | .01 | -.02 | .06 | .05 | .765 |
| 7 | Parent in prison for more than 1 year | .75 | .09 | .27 | .22 | .12 | .692 |
| 8 | Child in hospital for more than 1 week | .03 | .33 | .26 | .70 | -.00 | .658 |
| 9 | Serious illness or injury of child | .80 | -.08 | -.01 | .23 | -.06 | .709 |
| 10 | Third adult moves into family (e.g. grandmother) | -.02 | .12 | .64 | .01 | .09 | .433 |
| 11 | Strong decrease in financial status | .14 | .11 | .76 | .19 | -.01 | .641 |
| 12 | Death of father | .88 | -.11 | -.08 | -.07 | .21 | .842 |
| 13 | Sister or brother leaving home | .04 | .22 | .50 | -.01 | .05 | .300 |
| 14 | New marriage of mother | .72 | .27 | .38 | .03 | -.08 | .741 |
| 15 | New marriage of father | .71 | .30 | .31 | .01 | -.01 | .693 |
| 16 | Change of community | .08 | .52 | .38 | .22 | .35 | .599 |
| 17 | Getting adopted | .54 | .09 | .09 | .25 | -.18 | .406 |
| 18 | Marital separation of parents | .84 | .13 | .04 | .06 | .27 | .797 |
| 19 | Death of brother or sister | .80 | -.09 | .04 | .01 | .38 | .791 |
| 20 | Hospitalization of father (over 1 week) | .06 | .32 | .11 | .83 | .12 | .817 |

(continues)

Appendix 1. (continued)

| Event nr | Event | Factor | | | | | |
|---|---|---|---|---|---|---|---|
| | | I | II | III | IV | V | $h^2$ |
| 21 | Mother starting work | -.07 | .69 | .08 | .18 | .02 | .523 |
| 22 | Death of grandparent | .24 | .21 | .25 | .20 | .61 | .575 |
| 23 | Death of close friend | .58 | -.00 | .14 | .08 | .61 | .742 |
| 24 | Change of residence in same community. | .01 | .46 | .60 | .19 | .14 | .627 |
| 25 | Hospitalization of mother (over 1 week) | .08 | .41 | -.01 | .80 | .03 | .815 |
| 26 | Serious illness requiring hospitalization in sister or brother | .21 | .13 | .18 | .60 | .13 | .476 |
| 27 | Starting nursery school or kindergarten | -.00 | .81 | .02 | .25 | -.09 | .719 |
| 28 | Change of nursery school or kindergarten | -.19 | .75 | .18 | .25 | -.17 | .727 |
| 29 | Change of maid or day-care caretaker | -.10 | .71 | .19 | .09 | .05 | .556 |
| 30 | Starting school | .05 | .49 | .06 | .10 | .28 | .339 |
| 31 | Change of school | .11 | .69 | .24 | .18 | .11 | .589 |
| | | 8.24 | 4.23 | 2.95 | 2.82 | 1.41 | 19.640 |

Appendix 2. Composition of the scales 'life change frequency' and 'life change'

| Life change (weighted) | Life change frequency (unweighted) |
|---|---|
| 1st and 2nd divorce of parents | 1st and 2nd divorce of parents |
| Death of father | Death of father |
| Death of mother | Death of mother |
| 1st and 2nd new marriage of mother | 1st and 2nd new marriage of mother |
| 1st and 2nd new marriage of father | 1st and 2nd new marriage of father |
| 1st and second lowered financial status | 1st and 2nd lowered financial status |
| 1st and 2nd serious illness of mother | 1st and 2nd serious illness of mother |
| 1st and 2nd serious illness of father | 1st and 2nd serious illness of father |
| Getting adopted | Getting adopted |
| 1st and 2nd sibling leaving home | 1st and 2nd sibling leaving home |
| Birth of 1st to 4th sibling | 1st and 2nd loss of close friend |
| 1st and 2nd death of sibling | In institution |
| 1st to 4th death of grandparent | Number of day-care caretakers |
| 1st to 4th change of community | Number of caretaking periods |
| 1st to 5th change of residence | Number of births of sibling |
| 1st to 4th hospitalization of mother | Deaths of siblings |
| 1st to 4th hospitalization of mother | Deaths of grandparents |
| 1st to 4th serious illness of child | Changes of community |
| 1st to 5th change of school | Changes of residence |
| 1st to 5th hospitalization of child | Hospitalizations of mother |
| Mother started to work | Hospitalizations of father |
| | Illnesses of child |
| | Hospitalizations of child |
| | Changes of school |
| | Number of times being taken care of by persons outside family |
| | Number of mother's working periods |

Appendix 3. Occurrence of each event at different ages

| Event | Age 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | f | N | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1st divorce | 1 | 2 | 9 | 4 | 6 | 4 | 4 | 6 | 9 | 5 | 2 | 2 | 54 | 448 | 12.1 |
| 2nd divorce | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 452 | 0.2 |
| Death of father | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 11 | 448 | 2.5 |
| Death of mother | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 451 | 0.2 |
| New marriage of father | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 2 | 0 | 5 | 1 | 15 | 448 | 3.3 |
| New marriage of mother | 0 | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 2 | 2 | 12 | 451 | 2.7 |
| Birth of 1st sibling | 3 | 31 | 52 | 30 | 40 | 14 | 13 | 13 | 4 | 2 | 6 | 2 | 210 | 448 | 46.9 |
| Birth of 2nd sibling | 1 | 0 | 1 | 6 | 5 | 9 | 7 | 4 | 5 | 2 | 3 | 0 | 43 | 448 | 9.6 |
| Birth of 3rd sibling | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 7 | 450 | 1.6 |
| Birth of 4th sibling | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 449 | 0.2 |
| Death of sibling | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 6 | 450 | 1.3 |
| 1st death of grandparent | 5 | 15 | 16 | 22 | 23 | 11 | 9 | 16 | 20 | 18 | 23 | 17 | 195 | 436 | 44.7 |
| 2nd death of grandparent | 0 | 1 | 0 | 2 | 3 | 3 | 0 | 6 | 6 | 11 | 9 | 8 | 49 | 443 | 11.1 |
| 3rd death of grandparent | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 5 | 447 | 1.1 |
| 4th death of grandparent | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 448 | 0.2 |
| 1st change of community | 9 | 35 | 28 | 22 | 10 | 14 | 12 | 8 | 9 | 9 | 3 | 5 | 164 | 448 | 36.6 |
| 2nd change of community | 0 | 1 | 5 | 9 | 8 | 9 | 6 | 3 | 5 | 5 | 7 | 1 | 59 | 450 | 13.1 |
| 3rd change of community | 0 | 0 | 1 | 1 | 4 | 3 | 4 | 1 | 4 | 4 | 2 | 3 | 27 | 447 | 6.0 |
| 4th change of community | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 2 | 4 | 0 | 0 | 10 | 450 | 2.2 |
| 5th change of community | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 5 | 448 | 1.1 |
| 1st change of residence | 12 | 52 | 55 | 38 | 26 | 33 | 25 | 20 | 20 | 11 | 13 | 17 | 322 | 445 | 72.4 |

Appendix 3. (continued)

| Event | Age 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | f | N | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3rd hospitalization of father | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 7 | 447 | 1.6 |
| 4th hospitalization of father | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 447 | 0.4 |
| 1st illness of child | 6 | 2 | 5 | 3 | 1 | 4 | 0 | 4 | 2 | 0 | 1 | 1 | 29 | 449 | 6.5 |
| 2nd illness of child | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 449 | 0.7 |
| 3rd illness of child | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 449 | 0.4 |
| 1st hospitalization of child | 8 | 14 | 9 | 6 | 7 | 4 | 7 | 4 | 7 | 2 | 4 | 5 | 77 | 448 | 17.2 |
| 2nd hospitalization of child | 0 | 1 | 5 | 3 | 0 | 1 | 2 | 2 | 1 | 0 | 1 | 0 | 16 | 448 | 3.7 |
| 3rd hospitalization of child | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 8 | 448 | 1.8 |
| 4th hospitalization of child | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 448 | 0.4 |
| 5th hospitalization of child | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 448 | 0.4 |
| Day-care changes | 162 | 149 | 142 | 146 | 143 | 167 | 100 | - | - | - | - | - | 1009 | 427 | 81.1 |
| Adoption of child | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 450 | 0.4 |
| 1st change of school | - | - | - | - | - | - | 1 | 11 | 64 | 43 | 35 | 37 | 191 | 434 | 44.0 |
| 2nd change of school | - | - | - | - | - | - | 1 | 0 | 3 | 16 | 12 | 13 | 45 | 435 | 10.4 |

Appendix 3. (continued)

| Event | Age 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | f | N | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2nd change of residence | 0 | 3 | 15 | 14 | 11 | 10 | 12 | 12 | 10 | 10 | 15 | 11 | 123 | 446 | 27.5 |
| 3rd change of residence | 0 | 0 | 1 | 6 | 9 | 5 | 3 | 2 | 8 | 4 | 2 | 4 | 44 | 446 | 9.9 |
| 4th change of residence | 0 | 0 | 0 | 0 | 3 | 3 | 6 | 1 | 0 | 1 | 3 | 1 | 18 | 448 | 4.0 |
| 5th change of residence | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 1 | 1 | 0 | 10 | 448 | 2.2 |
| 1st lowered economy | 0 | 2 | 2 | 1 | 5 | 4 | 2 | 3 | 2 | 5 | 2 | 1 | 29 | 448 | 6.5 |
| 2nd lowered economy | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 449 | 0.2 |
| 1st illness of mother | 1 | 2 | 4 | 2 | 1 | 4 | 5 | 2 | 3 | 3 | 3 | 5 | 35 | 448 | 7.8 |
| 2nd illness of mother | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 448 | 0.4 |
| 1st illness of father | 2 | 3 | 1 | 2 | 4 | 4 | 7 | 2 | 5 | 4 | 4 | 6 | 44 | 447 | 9.5 |
| 2nd illness of father | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 4 | 448 | 0.9 |
| 1st hospitalization of mother | 5 | 12 | 16 | 12 | 12 | 14 | 10 | 13 | 7 | 7 | 10 | 7 | 125 | 444 | 28.1 |
| 2nd hospitalization of mother | 0 | 1 | 3 | 1 | 2 | 1 | 6 | 6 | 4 | 6 | 3 | 1 | 34 | 447 | 7.6 |
| 3rd hospitalization of mother | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 4 | 3 | 4 | 15 | 447 | 3.4 |
| 4th hospitalization of mother | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 6 | 447 | 1.3 |
| 1st hospitalization of father | 1 | 7 | 5 | 6 | 3 | 6 | 8 | 5 | 5 | 9 | 5 | 8 | 68 | 440 | 15.5 |
| 2nd hospitalization of father | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 3 | 3 | 2 | 2 | 3 | 17 | 445 | 3.8 |

Appendix 3. (continued)

| Event | Age 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | f | N | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3rd change of school | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 5 | 442 | 1.1 |
| 1st sibling leaving home | 0 | 2 | 1 | 3 | 2 | 5 | 5 | 3 | 5 | 5 | 6 | 12 | 49 | 443 | 11.1 |
| 2nd sibling leaving home | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 1 | 3 | 1 | 1 | 13 | 446 | 2.1 |
| 1st loss of friend | 0 | 0 | 0 | 1 | 2 | 4 | 3 | 9 | 6 | 9 | 7 | 2 | 43 | 446 | 9.6 |
| 2nd loss of friend | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 7 | 449 | 1.6 |
| Mother starting to work | 70 | 47 | 26 | 22 | 19 | 19 | 11 | 18 | 15 | 17 | 14 | 6 | 284 | 442 | 87.1 |
| | 288 | 384 | 408 | 371 | 357 | 362 | 293 | 194 | 252 | 238 | 227 | 196 | 3570 | | |

Appendix 4. The interview guide

Introduction: "Are You Mrs. X? I am N.N.". While taking of your coat, talk about the weather or some other neutral topic. Choose a place where you do not have to sit besides the subject, but at a $90^{o}$ angle. If possible, choose a table. High tables are best. If there is no table, place the tape recorder on the floor or the sofa.

Use of the tape recorder: Before putting the recorder on the table, or while you are doing this, explain that you are going to record the discussion because you would not have time to write down the answers. If the subjects seems reluctant, add that the discussion is, of course, completely confidential. This usually works, but if the subject is still reluctant, talk for about five minutes and then ask whether you may switch on the recorder.

Beginning: "This study concerns (John/Mary). What other children do you have? How old are they?"

Day-care: "This questionnaire concerned different changes in X's life. How about his day-care? I can see (show the questionnaire) that he was cared for by _____ after his birth. Would you describe these different forms of day-care and their impact on X? (Treat each period and ask for the reason of changes and their impact). "What is your opinion, is it better for the child that the mother takes care of him or that he is in a nursery or kindergarten?"

Work of mother: "Did you work before the birth of X? "When you started working, did it affect him?"

Other changes: Treat each change, for instance in the order in which they have occurred. Ask for the reason as well as their impact. Also try to ask for the degree of deliberation as well as the actions of the parents in the situation."

Transition: "Well, let's go on. My intention was to interview the children as well but at this stage the study is restricted to the mothers."

Characteristics of the child: "Would you give a short description of what kind of child X is?"

"How do you get along with him?

"What does he do during his free time?" (You may ask whether he reads, participates in sports activities etc. after having waited for spontaneous answers).

"If your family has time for some common activities, what do you do?"
"Does X belong to some organization or club?"
"Do you have a close relationship?"
"Does X tell you about his personal affairs?"
"Is he honest, do you believe what he tells you?"
"Would you, for instance, know if he smoked?"
"How would you react if he does something forbidden?"
"How have his school reports been? What is his average?"
"Has X already dreamt about some career?"
"What about you and your husband, what profession would you like him to have or choose?"

Descriptions of the child's behaviour: (Pulkkinen's blank). "Here I have a blank for you to fill in. It consists of nine descriptions of behaviour and I would like to ask you to rate how closely they apply to X. The question is whether the descriptions apply at all, a little (etc.). Would you kindly put a cross beside the alternative which most applies. We may also talk about how closely the descriptions apply to him."

DO NOT TURN OFF THE RECORDER!

Behavioural problems: "I would like to present another questionnaire which also concerns X. The questions here concern some symptoms which children may show. Few children have all of these symptoms and if there have been none, the questionnaire should stay empty. The questions concern the occurrence of the symptoms during the last year (mark here) and before that (mark here). We may also talk about these if you wish".

DO NOT TURN OFF THE RECORDER!

Child rearing: "We have been talking about children and in that way came close to child rearing. I would like to continue in this area. First a question of principles: "Do children grow on their own or do you have to bring them up?" (if the answer is not elaborated enough, proceed by asking what the mother means by upbringing or child rearing).
"In what way does the child rearing you apply to your child differ from the one you went through at home?"
"How is it, did you talk right after the marriage with your husband about what kind of child you wanted your children to be/to grow up into?"
"Let's think about X now: what sort of person do you want him to be now?"
"One part of child rearing consists of the aims of child rearing, i.e. what you want the child to be. A second part is how you apply this rearing, i.e. what rules you use".
"Could you tell me what rules -by this I mean restrictions, duties and rights- the children in your family have?"
"In what way do you think life would be different if you had no children?"
"Do you consider child rearing to be a difficult thing?"

Problem situations: (hand one card at a time)
"Next, I'll show you two problem situations and I would like to hear your opinion concerning them as a parent":

Situation A

"I would ask you to read through the following description carefully:

"In a family the parents found out that their 10-year-old boy had been shop-lifting?"
"What would you do in this situation? Why?"
"Would you please indicate how you think other parents would act in this situation."

Situation B

"Please also read the following description"

"The teacher contacted the parents of a family, because their ten-year-old daughter has shown continuing truancy and spent her time in town."
"Which of the parental actions below do you consider to be best? If it had happened in your family, which method would you use? Could you say what consequences each action might have. There may be several consequences."

1. Show more tenderness to the girl
2. Spank her
3. Discuss the reasons for truancy with her
4. Accompany her to school every day
5. Not care about the whole thing
6. Help her doing her homework

"Where do you think the families in question might get help in these situations?"

Marriage: "Next, I would like to go back in time to when you married."
"What factors influenced your decision to marry at precisely the time you married?"
"Was your first child planned or unplanned?"
"What about the other children?"

The mother's self-description: "Next, I have here a questionnaire with descriptions about the mother's behaviour (Show the questionnaire and go through the instructions (see Appendix 5).
"We may discuss the questions while you answer".

DO NOT TURN OFF THE RECORDER!

Plans: "The questionnaire contained questions concerning your planful behaviour in small matters, e.g. using a memo in shop. What do you think, are you planful in small things?"
"And what about big purchases, e.g. a washing machine or a TV (look

around the room), do you buy things impulsively or do you plan them?"
"Does X participate in the planning of purchases?"
"Does your family have some goal for saving at the moment?" (if not flat or house, ask what else).
"Do you have other goals?"
"Imagine that you won 300.000 marks on Lotto. What would you do?"
"What do you think, will you be working in ten years time or will you be at home?"
"And what about your husband? Will he have the same work?"
"Very generally, what do you want from the future?"

Time orientation: "Next, I'll show you a short blank with questions concerning how old you imagine you will be when different events happen. This is more like a game. No one knows the right answers so don't be afraid of answering. Please indicate how old you imagine you would be when each of the following things happen to you: 1. Your first grandchild is born, 2. you are not able to walk without assistance, 3. your last child leaves home, 4. you die, 5. you are middle-aged and 6. you have attained everything you have wanted in life."

The past: "Now I have only a few questions left. We were talking about the future. What about the past? How is it, are you content with the past?"
"If you could start all over again, would you change something/which decisions would you change?"

The opinion questionnaire: "Before finishing, I hope you will fill in this last blank. It does not concern the way you are but what your opinion is of the things mentioned in it." (see Appendix 6).

Payment: "I will pay you a small sum, 10 marks, for the interview, to thank you. Would you please sign here."

Appendix 5. Questionnaire of maternal behaviour

| Var. no | | The statement hardly at all applies to me 1 | The statement slightly applies to me 2 | The statement applies to me on average 3 | The statement applies rather well to me 4 | The statement applies very well to me 5 |
|---|---|---|---|---|---|---|
| | | Source | | | | |
| 452 | I am thoughtful | Gough | | | | |
| 453 | I like to plan things carefully and well in advance | Nesi | | | | |
| 454 | I am ambitious | Butler-Haigh | | | | |
| 455 | I have initiative | Butler-Haigh | | | | |
| 456 | I usually spend my money exactly in the way I have decided to spend it | Nesi | | | | |
| 457 | I often change my mind | Butler-Haigh | | | | |
| 458 | When I have made up my mind, it is difficult for me to change it | Nesi | | | | |
| 459 | I am contented with my life | Own | | | | |
| 460 | I have more willpower than most people | Campbell et al. | | | | |
| 461 | I can usually resist momentary temptions and behave in a manner consistent with more future goals | Nesi | | | | |

(continues)

Appendix 5. (continued)

| Var. no. | | Source |
|---|---|---|
| 462 | My life is not very useful | Butler-Haigh |
| 463 | I prefer to decide upon things when they are imminent rather than plan them in advance | Campbell et al. |
| 464 | I often impulsively buy things which I cannot afford | Nesi |
| 465 | I have a short attention span | Butler-Haigh |
| 466 | I usually use a memo list when I go shopping | Own |
| 467 | I believe in my own abilities | Butler-Haigh |
| 468 | I live one day at a time and don't worry about tomorrow | Butler-Haigh |
| 469 | I have difficulties in taking care of many tasks at one time | Nesi |
| 470 | I am planful | Own |
| 471 | I lack self-confidence | Own |
| 472 | I have difficulties in making up my mind and sticking to it | Own |
| 473 | My behaviour is usually impulsive | Butler-High |
| 474 | I usually buy my clothes on the spur of the moment | Own |
| 475 | I have difficulties in controlling my temper in irritating situations | Nesi |
| 476 | I agree to do many things and then I don't follow them through | |

(continues)

Appendix 5. (continued)

| Var. no. | | Source |
|---|---|---|
| 477 | I believe in the future | Own |
| 478 | I carry out my plans easily | Own |
| 481 | I usually do what others want me to do | Own |
| 482 | I long for changes and adventure in my life | Nesi |
| 483 | I am thrifty | Own |
| 484 | I believe in horoscopes | Own |
| 485 | I would like to reach the age of 80 | Own |
| 486 | I am careful | Own |
| 487 | I'd rather go on a trip suddenly than plan the journey | Own |
| 488 | I get depressed easily | Own |
| 489 | I want to do something important in my life before I die | Own |
| 490 | When I leave on a trip I usually compile a list of things to take with me | Own |
| 491 | I can save money | Own |
| 492 | I am often ready to take chances even though I probably won't succeed | Nesi |
| 493 | I spend a lot of time daydreaming | Nesi |
| 494 | I feel the future looks bright | Hunt, Singer & Cobb |
| 495 | I believe in destiny | Butler-Haigh |
| 496 | My behaviour is planned and not impulsive | Nesi |
| 497 | I am flexible when necessary | Own |

(continues)

Appendix 5. (continued)

| Var. no. | | Source |
|---|---|---|
| 498 | I am systematic | Own |
| 499 | It is easy for me to control my temper | Own |

x) For references : Gough; Campbell, Hunt, Singer & Cobb, Butler-Haigh: See Robinson & Shaver 1969, Nesi: See Mäkinen 1968

Appendix 6. Questionnaire for measuring maternal attitudes

| The purpose of the following statements is to get a picture of what people think generally about the areas in question. The best answer to every statement is your own opinion. Mark a cross (x) for every statement to show how much you agree or disagree with it. | | Do not agree at all | Disagree quite a lot | Disagree slightly | Agree slightly | Agree quite a lot | Agree completely |
|---|---|---|---|---|---|---|---|
| Var. no. | | 1 | 2 | 3 | 4 | 5 | 6 |
| | | Source | | | | | |
| 506 | Parents are always right because they have more experience | Kälvesten & Mehldal | | | | | |
| 507 | Considering every alternative saves one a lot of trouble | Adapted from Brim et al. | | | | | |
| 508 | It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyway | Rotter | | | | | |
| 509 | People should have more self-control when they get angry | Own | | | | | |

(continues)

Appendix 6. (continued)

| Var. no. | | Source |
|---|---|---|
| 510 | Children deserve as much consideration as adults | Kälvesten & Mehldal |
| 511 | One should try to collect as much information as possible before making decisions | Brim et al. |
| 512 | Happiness follows from living one day at a time | Brim et al., Hill |
| 513 | Everything that happens to us has been ordained by God. | Adapted from Brim et al. |
| 514 | Well planned is half done | Own |
| 515 | Man is only a small cog in a big machine and therefore all our efforts are in vain | Rotter |
| 516 | One who always tries to figure out all the consequences can never decide upon anything | Brim et al. |
| 517 | When you have to decide upon doing something, it is worthwhile to make as complete a list (of all the alternatives) as possible | Brim et al., Hill |
| 518 | You can influence your mood if you want to | Own |
| 519 | Success in life depends most of all on our own efforts | Adapted from Brim et al. |
| 520 | The present time is so complicated that the individual is powerless | Own |
| 521 | If you think of everything that might happen you only get confused | Brim et al. |
| 522 | Man's misfortunes result from the mistakes they make | Adapted from Rotter |

(continues)

Appendix 6. (continued)

| Var. no. | | Source |
|---|---|---|
| 523 | Every family should have a five year plan | Own |
| 524 | Life will turn out the way you want it | Adapted from Rotter |
| 525 | Our first impulses are good, thinking usually spoils them | Brim et al. |
| 526 | Children should have the right to express their opinion when their parents are talking | Kälvesten & Mehldal |
| 527 | It is better to decide on things when they happen rather than plan them in advance | Adapted from Campbell et al. |
| 528 | Thinking is a luxury which is useless and sometimes even harmful | Brim et al., Hill |
| 529 | One should plan one's tasks carefully instead of plunging into them | Nesi |

For references:

Kälvesten & Mehldal 1972
Campbell et al. :See Robinson & Shaver 1969
Rotter 1966
Hill 1970
Brim et al. 1962
Nesi: See Mäkinen 1968

Appendix 7. Varimax rotated solution of maternal variables (the variable numbers refer to appendices 5 and 6)

| Var. no. | Factors I | II | III | IV | V | VI | $h^2$ |
|---|---|---|---|---|---|---|---|
| 452 | .52 | -.10 | .22 | .25 | -.07 | -.03 | .399 |
| 453 | .68 | .15 | .01 | .28 | -.19 | -.08 | .614 |
| 455 | .22 | -.13 | -.16 | .62 | -.09 | -.10 | .491 |
| 456 | .60 | .18 | .07 | .18 | -.09 | .07 | .440 |
| 457 | -.47 | .13 | .24 | .04 | -.01 | .02 | .297 |
| 458 | .02 | .17 | .22 | .39 | -.07 | .23 | .284 |
| 460 | -.00 | -.15 | .09 | .60 | -.10 | -.03 | .401 |
| 461 | .75 | -.10 | .04 | -.02 | -.04 | -.06 | .577 |
| 462 | -.26 | .31 | .45 | .01 | .13 | .23 | .437 |
| 464 | -.47 | .36 | .07 | .27 | .08 | -.18 | .460 |
| 465 | -.26 | .54 | .10 | -.23 | .01 | -.04 | .425 |
| 467 | .26 | -.04 | .10 | .47 | .21 | -.27 | .421 |
| 469 | .03 | .42 | .08 | -.17 | .07 | .24 | .278 |
| 470 | .63 | -.00 | .12 | .29 | -.14 | .04 | .522 |
| 471 | -.04 | .44 | .15 | -.19 | -.08 | .24 | .313 |
| 472 | .14 | -.02 | .28 | -.32 | -.16 | -.01 | .224 |
| 473 | -.52 | .29 | -.10 | .21 | .18 | -.14 | .458 |
| 474 | -.52 | .30 | -.03 | .42 | .24 | -.06 | .597 |
| 475 | .17 | .53 | -.13 | .10 | .20 | .20 | .413 |
| 476 | -.49 | -.01 | .05 | .06 | .03 | .24 | .302 |
| 477 | .03 | -.24 | -.20 | .11 | .53 | .19 | .430 |
| 478 | -.05 | -.27 | -.13 | .44 | .28 | .15 | .389 |
| 481 | -.32 | .06 | .18 | -.01 | .03 | .41 | .310 |
| 483 | .64 | .01 | .02 | .18 | .21 | .04 | .491 |
| 484 | .02 | .09 | .27 | -.03 | .30 | .25 | .239 |
| 485 | -.16 | -.31 | -.04 | .37 | .11 | .17 | .302 |
| 486 | .42 | .04 | -.03 | .58 | -.17 | .20 | .582 |
| 487 | -.36 | .05 | .16 | -.03 | .23 | -.22 | .258 |
| 488 | -.12 | .38 | .10 | -.27 | -.05 | .36 | .376 |
| 489 | -.11 | -.31 | .11 | .06 | -.01 | .55 | .423 |
| 490 | .26 | .20 | -.19 | .11 | .02 | .26 | .224 |

(continues)

Appendix 7. (continued)

| Var. no. | Factors I | II | III | IV | V | VI | $h^2$ |
|---|---|---|---|---|---|---|---|
| 491 | .67 | -.07 | .04 | .07 | .07 | .21 | .510 |
| 492 | -.22 | -.19 | .44 | -.09 | -.04 | .31 | .381 |
| 493 | -.17 | .04 | .21 | -.10 | .33 | .32 | .301 |
| 495 | -.00 | .14 | -.03 | -.10 | .72 | .14 | .571 |
| 496 | .70 | -.12 | -.17 | .01 | .06 | .23 | .593 |
| 497 | .02 | -.28 | .13 | .19 | .43 | .21 | .360 |
| 498 | .51 | .08 | .07 | .48 | -.02 | .21 | .547 |
| 499 | .08 | -.54 | .16 | -.08 | -.11 | .02 | .340 |
| 506 | .00 | -.13 | .40 | .23 | -.04 | .13 | .252 |
| 507 | .19 | .11 | -.22 | -.04 | .04 | .53 | .382 |
| 508 | -.20 | -.04 | .49 | -.13 | .62 | -.02 | .681 |
| 509 | -.08 | .13 | .07 | -.08 | .18 | .38 | .208 |
| 511 | .08 | .16 | -.04 | .09 | .21 | .44 | .276 |
| 512 | -.08 | .06 | .16 | -.22 | .50 | -.32 | .438 |
| 513 | -.10 | .27 | -.07 | -.01 | .61 | .07 | .459 |
| 514 | .19 | .19 | -.14 | .16 | .19 | .42 | .328 |
| 515 | .07 | .08 | .52 | -.30 | .28 | .03 | .453 |
| 517 | .39 | .36 | -.02 | .02 | .04 | .48 | .515 |
| 520 | .16 | .21 | .65 | -.09 | .09 | -.05 | .505 |
| 521 | .08 | -.02 | .48 | -.11 | .09 | .03 | .259 |
| 522 | .07 | .10 | .57 | .15 | -.03 | -.01 | .354 |
| 523 | .20 | .19 | .02 | .33 | -.19 | .19 | .252 |
| 524 | .05 | -.05 | .16 | .41 | -.22 | -.14 | .268 |
| 525 | -.11 | .04 | .38 | .14 | .49 | -.19 | .448 |
| 526 | .09 | .39 | .25 | .08 | -.05 | .05 | .232 |
| 527 | -.21 | -.07 | .51 | .21 | .21 | -.28 | .468 |
| 528 | -.04 | .06 | .66 | .12 | -.12 | -.07 | .478 |
| 529 | .34 | -.09 | .09 | .03 | -.23 | .60 | .539 |
| | 6.38 | 3.04 | 3.83 | 3.64 | 3.41 | 3.48 | 23.77 |

Appendix 8. Varimax rotated principal components solution of child rearing variables (the variable numbers refer to appendix 9)

| Var. no. | Factors I | II | III | IV | V | VI | $h^2$ |
|---|---|---|---|---|---|---|---|
| 506 | -.23 | .04 | -.03 | .19 | .31 | .02 | .187 |
| 510 | -.03 | -.01 | .25 | .03 | -.47 | -.14 | .306 |
| 523 | -.19 | .11 | .19 | -.07 | .16 | .40 | .277 |
| 526 | -.01 | -.13 | .32 | .17 | -.20 | .39 | .338 |
| 551 | .15 | .48 | -.15 | .14 | .18 | -.03 | .325 |
| 566 | -.19 | -.05 | .09 | -.06 | .05 | -.12 | .065 |
| 572 | .38 | -.20 | .23 | -.04 | .16 | .27 | .340 |
| 573 | -.03 | .00 | -.02 | -.03 | .05 | .41 | .174 |
| 574 | .52 | -.08 | -.21 | -.02 | .05 | -.26 | .391 |
| 575 | -.11 | .13 | -.00 | .63 | -.02 | -.06 | .429 |
| 576 | -.02 | .15 | .11 | -.06 | -.27 | .02 | .113 |
| 577 | -.19 | -.22 | .07 | .12 | -.11 | .21 | .159 |
| 578 | .01 | .04 | .12 | .15 | .46 | -.05 | .255 |
| 579 | -.09 | -.18 | -.15 | .46 | -.08 | -.20 | .318 |
| 580 | .22 | .43 | .15 | -.15 | .02 | .18 | .314 |
| 585 | .39 | .04 | -.25 | .29 | .01 | -.02 | .212 |
| 586 | .26 | .13 | -.10 | .10 | -.18 | .31 | .238 |
| 587 | .17 | .04 | .07 | .08 | .05 | -.49 | .278 |
| 588 | .24 | -.10 | .26 | .42 | .24 | -.08 | .380 |
| 591 | .23 | .03 | .20 | .08 | .41 | -.00 | .262 |
| 592 | -.34 | -.02 | -.08 | .18 | -.48 | .01 | .382 |
| 593 | .61 | .03 | .05 | .16 | .02 | -.14 | .415 |
| 594 | -.05 | .01 | .06 | .24 | .27 | .32 | .241 |
| 614 | .09 | -.01 | .52 | -.06 | .14 | .21 | .349 |
| 615 | .08 | .40 | .44 | .02 | -.20 | .02 | .400 |
| 616 | .13 | .66 | .12 | .05 | -.00 | .20 | .503 |
| 617 | -.10 | .60 | -.08 | -.10 | .06 | -.10 | .403 |
| 618 | -.14 | .40 | .21 | -.03 | .00 | -.38 | .367 |
| 619 | .05 | -.03 | -.59 | -.13 | .19 | .12 | .422 |
| 620 | .53 | .10 | -.07 | .05 | .11 | .02 | .313 |

(continues)

Appendix 8. (continued)

| Var. | Factors | | | | | | |
|---|---|---|---|---|---|---|---|
| no. | I | II | III | IV | V | VI | $h^2$ |
| 623 | -.15 | .52 | -.15 | -.02 | -.11 | .19 | .336 |
| 624 | .01 | .00 | -.02 | .31 | .01 | -.07 | .098 |
| 626 | .18 | .06 | -.38 | .14 | -.21 | .20 | .276 |
| 627 | .09 | .38 | .11 | -.27 | -.12 | -.21 | .293 |
| 628 | .10 | -.44 | .12 | -.24 | .05 | .04 | .277 |
| 629 | -.01 | -.10 | .09 | .59 | .01 | .18 | .396 |
| 630 | -.17 | -.02 | .01 | .25 | -.15 | .01 | .054 |
| 631 | .04 | -.08 | -.03 | .09 | .39 | .15 | .190 |
| 632 | -.10 | .03 | .13 | .38 | .11 | .13 | .198 |
| 633 | -.16 | .06 | .14 | .09 | .07 | -.31 | .158 |
| 634 | .11 | .09 | -.50 | -.09 | -.01 | .04 | .281 |
| 635 | .05 | .11 | .23 | -.05 | -.39 | .23 | .275 |
| 637 | .30 | -.07 | -.22 | .32 | -.37 | -.03 | .381 |
| 638 | .14 | -.17 | .03 | .14 | -.50 | -.09 | .318 |
| 639 | .39 | -.17 | .15 | .10 | .08 | .08 | .204 |
| 640 | .36 | .26 | -.14 | .54 | .07 | -.12 | .527 |
| 641 | .07 | .05 | -.49 | .18 | .12 | .22 | .334 |
| 645 | .44 | .04 | .14 | -.24 | .01 | .04 | .273 |
| 648 | .11 | .14 | .18 | -.22 | -.12 | .25 | .191 |
| 654 | .05 | .05 | -.07 | -.02 | .04 | .45 | .214 |
| | 2.60 | 2.59 | 2.38 | 2.43 | 2.26 | 2.10 | 14.426 |

Appendix 9. The original interview variables

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 534 | Number of children | | | |
| 535 | Order of birth | 1 oldest | 36 | 33.03 |
| | | 2 some in the middle | 17 | 15.60 |
| | | 3 youngest | 47 | 43.12 |
| | | 4 only child | 9 | 8.26 |
| | | | 109 | 100 % |
| 536 | Mother working before the birth of child | 1 no | 41 | 41.84 |
| | | 2 part-time | 10 | 10.20 |
| | | 3 full-time | 47 | 47.96 |
| | | | 98 | 100 % |
| 537 | Opinion concerning day-care of child | 1 very discontented | 2 | 2.04 |
| | | 2 quite discontented | 11 | 11.22 |
| | | 3 nothing special | 24 | 24.29 |
| | | 4 quite contented | 43 | 43.88 |
| | | 5 very contented | 18 | 18.37 |
| | | | 98 | 100 % |
| 538 | Opinion concerning child | 1 very positive | 15 | 13.89 |
| | | 2 positive | 67 | 62.04 |
| | | 3 neutral | 22 | 20.37 |
| | | 4 quite negative | 3 | 2.78 |
| | | 5 very negative | 1 | 0.93 |
| | | | 108 | 100 % |
| 539 | Opinion concerning grades | 1 low | 0 | 0.00 |
| | | 2 quite low | 13 | 14.29 |
| | | 3 average | 33 | 36.26 |
| | | 4 good | 33 | 36.26 |
| | | 5 very good | 12 | 13.19 |
| | | | 91 | 100 % |

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 540 | Average grade | | | |
| 541 | Child smoking | 1 no | 88 | 83.02 |
| | | 2 yes | 18 | 16.98 |
| | | | 106 | 100 % |
| 542 | Continuous difficulties in the family (e.g. alcohol illness) | 1 no | 71 | 68.27 |
| | | 2 some | 19 | 18.27 |
| | | 3 many | 8 | 7.69 |
| | | 4 very many | 6 | 5.77 |
| | | | 104 | 100 % |
| 543 | Opinion concerning husband | 1 very negative | 2 | 2.23 |
| | | 2 negative | 8 | 9.30 |
| | | 3 neutral | 36 | 41.86 |
| | | 4 positive | 34 | 39.53 |
| | | 5 very positive | 6 | 6.98 |
| | | | 86 | 100 % |
| 544 | Opinion concerning day-care in general | 0 kindergarten, nursery is good, offers stimulation etc | 14 | 14.43 |
| | | 1 depends on mother, or; for older children, a half-day institution is good | 23 | 23.71 |
| | | 2 no opinion | 3 | 3.09 |
| | | 3 child care in family setting; mother is good, but not only possibility | 33 | 34.02 |
| | | 4 absolutely favours mother | 23 | 23.71 |
| | | | 97 | 100 % |

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 545 | Type of child (estimated by the author from the interviews) | 0 withdrawn, shy, anxious, timid | 13 | 12.04 |
| | | 1 peaceful, quiet | 32 | 29.63 |
| | | 2 no opinion | 14 | 12.96 |
| | | 3 both passive and active, or neither | 24 | 12.96 |
| | | 4 lively, active, has initiative | 21 | 19.44 |
| | | 5 overactive, restless | 14 | 12.96 |
| | | | 108 | 100 % |
| 546 | Estimated group in Pulkkinen's two-dimensional classification | 1 stable | 13 | 11.93 |
| | | 2 extrovert | 13 | 11.93 |
| | | 3 introvert | 28 | 25.69 |
| | | 4 no extreme group | 32 | 29.36 |
| | | 5 anxious | 8 | 7.34 |
| | | 6 anxious aggressive | 10 | 9.17 |
| | | 7 aggressive | 5 | 4.59 |
| | | | 109 | 100 % |
| 547 | Level of activity estimated by the author from the interviews | 1 shy, anxious | 6 | 5.50 |
| | | 2 timid, withdrawn, | 25 | 22.94 |
| | | 3 peaceful, stable | 22 | 20.18 |
| | | 4 no opinion | 15 | 13.76 |
| | | 5 lively, active | 19 | 17.43 |
| | | 6 restless, hot-tempered | 18 | 16.51 |
| | | 7 attacking, aggressive | 4 | 3.67 |
| | | | 109 | 100 % |
| 548 | Number of hobbies | 0-8 | | |
| 549 | Quality of hobbies | 0 pastimes, idling, TV | 23 | 21.30 |
| | | 1 some clear "small" hobby, e.g. stamps, planes | 43 | 39.81 |

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| | | 2 some hobby requiring forbearance (e.g. playing some instrument, active sport) | 42 | 38.89 |
| | | | 108 | 100 % |
| 550 | Number of organizations (clubs) (e.g. Scouts, congregation, sport associations) | 0-8 | | |
| 551 | Number of common activties in the family | 0-8 | | |

| | | 0 No | | 1 Actively | | 2 Passively | | Total | |
|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | | |
| 552 | Sport, exercise, ballet | 50 | 45.87 | 24 | 22.02 | 35 | 32.11 | 109 | 100 % |
| 554 | Music | 78 | 72.22 | 4 | 3.70 | 26 | 24.07 | 108 | 100 % |
| 555 | Animals | 99 | 91.67 | 5 | 4.63 | 4 | 3.70 | 108 | 100 % |

| | | 0 No | | 1 yes | | Total | |
|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % |
| 553 | Reading | 46 | 42.59 | 62 | 57.41 | 108 | 100 % |
| 556 | Handicraft, planes, stamps, cooking etc. | 77 | 70.64 | 32 | 29.36 | 109 | 100 % |
| 557 | Idling, TV, strumming, listening to pop | 77 | 70.64 | 32 | 29.36 | 109 | 100 % |
| 558 | Outdoor life, fishing | 62 | 56.88 | 47 | 43.12 | 109 | 100 % |
| 559 | School subject hobbies | 100 | 91.74 | 9 | 8.26 | 109 | 100 % |
| 560 | Correspondence, poems, keeps diary | 99 | 90.83 | 10 | 9.17 | 109 | 100 % |

561 Number of hobby areas (number of value 1 in variables 552-560)

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 563 | S takes care of homework himself | 0 no | 64 | 71.91 |
| | | 1 yes | 25 | 28.09 |
| 564 | Inability of mother to help with homework | 0 no | 58 | 63.74 |
| | | 1 yes | 33 | 36.26 |
| 565 | Degree of realism in S's career plans | 0 no plans | 33 | 35.11 |
| | | 1 unrealistic | 39 | 41.49 |
| | | 2 school clear, profession not | 13 | 13.83 |
| | | 3 already preparing for profession and knows what he wants | 9 | 9.57 |
| | | | 94 | 100 % |
| 566 | Emphasis on child in parents' career plans for him | 0 no | 77 | 71.96 |
| | | 1 yes | 30 | 28.04 |
| | | | 107 | 100 % |
| 567 | Emphasis on long education | 0 no | 75 | 70.09 |
| | | 1 yes | 32 | 29.91 |
| | | | 107 | 100 % |
| 568 | Parents have clear plans for child's education | 0 no | 100 | 93.46 |
| | | 1 yes | 7 | 6.54 |
| | | | 107 | 100 % |
| 569 | Parents' plans for S's education | 0 no | 88 | 82.24 |
| | | 1 yes | 19 | 17.76 |
| | | | 107 | 100 % |
| 570 | Plans for practical education | 0 no | 102 | 95.33 |
| | | 1 yes | 5 | 4.67 |
| | | | 107 | 100 % |
| 571 | Parents take child's resources into consideration in planning his education | 0 no | 92 | 85.98 |
| | | 1 yes | 15 | 14.02 |
| | | | 107 | 100 % |

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 572 | Closeness of relationship | 0 no | 4 | 3.81 |
| | | 1 not ecpecially close | 13 | 12.38 |
| | | 2 normal | 54 | 51.43 |
| | | 3 close | 34 | 32.38 |
| | | | 103 | 100 % |

Variables 573 to 580 all measure different aspects of child rearing and are dichotomous

| | Child rearing is | 0 No | | 1 Yes | | Total | |
|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % |
| 573 | Advising, guiding, setting limits, saying what is right or wrong; rules | 39 | 35.78 | 70 | 64.22 | 109 | 100 % |
| 574 | Acting as a model, being an example | 100 | 90.91 | 10 | 0.09 | 110 | 100 % |
| 575 | Corporal punishment | 107 | 97.27 | 3 | 2.73 | 110 | 100 % |
| 576 | Warmth, closeness, tenderness | 105 | 95.45 | 5 | 4.55 | 110 | 100 % |
| 578 | Teaching how to behave | 100 | 90.91 | 10 | 9.09 | 110 | 100 % |
| 579 | Discipline, correction | 101 | 91.82 | 9 | 8.18 | 110 | 100 % |
| 580 | Listening to children, children's rights | 99 | 90.00 | 11 | 10.00 | 110 | 100 % |

| | | | | |
|---|---|---|---|---|
| 577 | Child rearing is useless | 0 yes | 19 | 17.27 |
| | | 1 no | 91 | 82.73 |

581 Positive child rearing=573+574+576+580

582 Negative child rearing=575+578+579

583 Directing child rearing =581-582

584 Number of recognized rules (including also, for instance, no meal-times)

585 Number of rules in use

586 Number of child's rights

| | | | | |
|---|---|---|---|---|
| 587 | Use of corporal punishment | 0 real punishment used | 13 | 14.13 % |
| | | 1 used when child was younger and/or shaken by the hair | 40 | 43.48 |
| | | 2 not used | 39 | 42.39 |
| | | | 92 | 100 % |

(continues)

| Var. no. | Variable | Variable classes |
|---|---|---|
| 588 | Number of chores at home | |
| 589 | No rules needed (584-585) | |
| 590 | Rule rearing (585-586) | |
| 591 | Preserving positive traits from own home (1) | Variables 591-594 are formed by summing the use of corporal punishment, severity, lack of love and warmth and amount of household chores in mother's own home and now. To this sum are added other differences and similarities. The four traits have been scored in the following manner: |
| 592 | Obliterating severe traits from own home (2) | |
| 593 | Adopting more severe methods than in own home (3) | |
| 594 | Preserving severe child rearing traits (4) | |

Scoring of variables 591-594:

| | | Now + | Now - |
|---|---|---|---|
| Formerly | + | 4 | 2 |
| | - | 3 | 1 |

0 not mentioned
1 not formerly, not now
2 formerly, not now
3 not formerly, now
4 formerly, now

595 Severity of mother's home: the variable is formed by summing the existence of corporal punishment, severity, lack of love and amount of work

Variables 596-613 measures the way the mother wants to child to be:

| | 0 no | | 1 yes | | 2 not classifiable | | Total | |
|---|---|---|---|---|---|---|---|---|
| | f | % | f | % | f | % | f | % |
| 596 Considerate | 54 | 64.29 | 30 | 27.38 | 6 | 8.25 | 90 | 100 % |
| 597 Independent | 66 | 79.52 | 17 | 13.25 | 6 | 7.23 | 89 | 100 % |
| 598 To have work, occupation | 47 | 56.63 | 36 | 36.14 | 6 | 7.23 | 89 | 100 % |
| 599 To be cheerful, contented, happy etc. | 45 | 54.22 | 38 | 38.55 | 6 | 7.23 | 89 | 100 % |
| 612 To be honest, decent | 47 | 56.63 | 36 | 36.14 | 6 | 7.23 | 89 | 100 % |
| 613 Healthy | 69 | 83.13 | 8 | 9.64 | 6 | 7.23 | 89 | 100 % |

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 614 | Importance of children (what would you do if you had no children?) | 0 work, study | 24 | 23.30 |
| | | 1 I would have divorced | 8 | 7.77 |
| | | 2 I do not know | 18 | 17.48 |
| | | 3 life would be boring, couldn't even think of it | 53 | 51.46 |
| | | | 103 | 100 % |
| 615 | Sacrifice of money | 0=no | 52 | 50.98 % |
| | | 1=yes | 50 | 49.02 % |
| | | | 102 | 100 % |
| 616 | Sacrifice of time | 0=no | 67 | 65.69 % |
| | | 1=yes | 35 | 34.31 % |
| | | | 102 | 100 % |
| 617 | Sacrifice of own pastimes | 0=no | 72 | 70.59 % |
| | | 1=yes | 30 | 29.41 % |
| | | | 102 | 100 % |
| 618 | Sacrifice of enjoyments, travels | 0=no | 75 | 75.53 % |
| | | 1=yes | 27 | 27.74 % |
| | | | 102 | 100 % |
| 619 | Sacrifice of own job | 0=no | 91 | 89.22 % |
| | | 1=yes | 11 | 10.78 % |
| | | | 102 | 100 % |
| 620 | Sacrifice of own education | 0=no | 100 | 98.04 % |
| | | 1=yes | 2 | 1.96 % |
| | | | 102 | 100 % |
| 621 | Sum of sacrifices | (variables 615-620) | f | % |
| 623 | Bitterness over sacrifices | 0=no: would be ready to sacrifice anything | 44 | 43.14 |
| | | 1 did not mention | 51 | 50.00 |
| | | 2 bitter tone, mentions that it is hard to have children | 7 | 6.70 |
| | | | 102 | 100 % |

(continues)

| Var. no. | Variable | Variable classes | f | % |
|---|---|---|---|---|
| 624 | Difficulty of child rearing | 0 no | 32 | 32.00 |
| | | 1 both yes and no | 9 | 9.00 |
| | | 2 difficult | 59 | 59.00 |
| | | | 100 | 100 % |
| 625 | Insecurity in child rearing | 0 no | 66 | 66.00 |
| | | 1 mentions insecurity, failure, how does one know what to do etc. | 34 | 34.00 |
| | | | 100 | 100 % |

What would mother do if she found out that the child had been shoplifting?

| | 0=No | | 1=yes | | Total | |
|---|---|---|---|---|---|---|
| | f | % | f | % | f | % |
| 626 Would be shocked | 88 | 83.81 | 17 | 16.19 | 105 | 100 % |
| 627 Would explain situation | 29 | 27.62 | 76 | 72.38 | 105 | 100 % |
| 628 Would go to the store to explain | 64 | 60.95 | 41 | 39.05 | 105 | 100 % |
| 629 Gets angry, mad | 96 | 91.43 | 9 | 8.57 | 105 | 100 % |
| 630 Has a serious talk | 99 | 94.24 | 6 | 5.71 | 105 | 100 % |
| 631 Denies, doubts the whole thing | 103 | 98.10 | 2 | 1.90 | 105 | 100 % |
| 632 Deprives child of privileges | 100 | 95.24 | 5 | 4.76 | 105 | 100 % |
| 633 Child spanked | 104 | 99.05 | 1 | 0.95 | 105 | 100 % |
| 634 Mother accuses herself | 99 | 94.29 | 6 | 5.71 | 105 | 100 % |

| | | | | |
|---|---|---|---|---|
| 635 Behaviour of others in a shoplifting situation | 0 only positive actions mentioned | 8 | 8.33 |
| | 1 both positive and negative actions mentioned | 19 | 19.79 |
| | 2 only negative actions mentioned | 62 | 64.58 |
| | | 89 | 100 % |

(continues)

| Var. no. | | Variable classes | f | % |
|---|---|---|---|---|
| 636 | Own actions more severe | 0 less severe | 63 | 70.79 |
| | | 1 the same | 26 | 29.21 |
| | | 2 more severe | 0 | 0.00 |
| | | | 89 | 100 % |
| 637 | Number of other people's actions mentioned in the shop-lifing situation | | | |
| 638 | Discussion as a remedy of truancy | 0 not chosen as best action | 13 | 12.26 |
| | | 1 chosen as best action | 93 | 87.74 |
| | | | 106 | 100 % |
| 639 | Spanking as remedy of truancy | 0 helps | 4 | 3.92 |
| | | 1 helps, but depends on child | 5 | 4.90 |
| | | 2 does not help, answer not motivated | 42 | 41.18 |
| | | 3 does not help, increases defiance | 51 | 50.00 |
| | | | 102 | 100 % |
| 640 | Number of motivated child rearing alternatives estimated on the basis of the answers to situation II | 0-6 | | |
| 641 | Number of agents mentioned | | | |
| 642 | Deliberation in marrying | 0-7 | | |
| 643 | Deliberation in getting children | 0-2 | | |
| 644 | Deliberation in big purchases | 0-3 | | |
| 645 | Participation of child in big purchases | 0-3 | | |

(continues)

| Var. no. | | Variable classes | f | % |
|---|---|---|---|---|
| 646 | Long-range planning | 0 no debts | 34 | 32.38 |
| | | 1 saving for a car | 7 | 6.67 |
| | | 2 saving for a boat, cottage, furniture etc. | 19 | 18.10 |
| | | 3 account or debt, no mention of nature | 9 | 8.57 |
| | | 4 a big, long-term debt for residence | 36 | 34.23 |
| | | | 105 | 100 % |
| 647 | Quality of purchase if winning on Lotto | 0 no goals | 40 | 38.83 |
| | | 1 a car | 5 | 4.85 |
| | | 2 consumer goods | 23 | 22.33 |
| | | 3 flat, own house | 28 | 27.18 |
| | | 4 children's hobbies, education etc. | 7 | 6.80 |
| | | | 103 | 100 % |
| 648 | Taking children into account if winning on Lotto | 0 no | 64 | 62.75 |
| | | 1 travelling with children, paying for their hobbies | 19 | 18.63 |
| | | 2 using money for child's education, flat etc | 19 | 18.63 |
| | | | 102 | 100 % |
| 650 | Taking into account people outside nuclear family in case of winning on Lotto | | | |
| 651 | Degree of certainty of own job in 10 years | 0 very uncertain | 3 | 3.00 |
| | | 1 uncertain | 38 | 38.00 |
| | | 2 very certain | 59 | 59.00 |
| | | | 100 | 100 % |

(continues)

| Var. no. | Variable classes | f | % |
|---|---|---|---|
| 652 Degree of certainty of husband's job in 10 years | 0 very uncertain | 2 | 2.25 |
| | 1 uncertain, offers conditions (e.g. health) | 23 | 25.84 |
| | 2 very certain | 63 | 70.79 |
| | | 88 | 100 % |
| 653 Experienced certainty of future (651+652) | | | |
| 654 Considering children in future planning | 0 no | 30 | 29.70 |
| | 1 yes | 61 | 60.40 |
| | 2 only children count | 10 | 9.90 |
| | | 101 | 100 % |

Expectations about the future: What do you expect of your future?

| | 0=not mentioned | | 1=yes | | Total | |
|---|---|---|---|---|---|---|
| | f | % | f | % | f | % |
| 655 Health | 36 | 35.64 | 65 | 64.36 | 101 | 100 % |
| 656 Work | 74 | 73.27 | 27 | 26.73 | 101 | 100 % |
| 657 Peaceful social life | 80 | 79.21 | 21 | 20.79 | 101 | 100 % |
| 658 Would like to see children grow up | 31 | 30.69 | 70 | 69.31 | 101 | 100 % |
| 659 Amusements, travels | 98 | 97.03 | 3 | 2.97 | 101 | 100 % |
| 660 A fortune | 97 | 96.04 | 4 | 3.96 | 101 | 100 % |
| 661 Peace for the world | 97 | 96.04 | 4 | 3.96 | 101 | 100 % |
| 662 Studies | 100 | 99.01 | 1 | 0.99 | 101 | 100 % |

| | | | |
|---|---|---|---|
| 663 Structuring of the future (=number of areas mentioned) | | | |
| 664 Contentment with the past | 0 discontented | 8 | 8.16 |
| | 1 slightly discontented | 37 | 37.76 |
| | 2 contented | 53 | 54.04 |
| | | 98 | 100 % |
| 665 No inclination to change past | 0 would change something | 65 | 64.36 |
| | 1 wouldn't change anything | 36 | 35.64 |
| | | 101 | 100 % |

Appendix 10. Correlations of Pulkkinen's scale measuring weak self-control in the child ('Has difficulties in concentrating, short attention span, labile mood', var.no. 408) and the factor with the same name with selected maternal variables

| Var. no. | Items of maternal behaviour | Child's weak self-control | |
|---|---|---|---|
| | | Factor | Item |
| 462 | My life is not very useful | .17 | .26 |
| 455 | I have initiative | -.17 | -.36 |
| 465 | I have a short attention span | .23 | .25 |
| 470 | I am planful | -.23 | -.30 |
| 471 | I lack self-confidence | .10 | .20 |
| 472 | I have difficulties in making up my mind and sticking to it | .41 | .27 |
| 478 | I carry out my plans easily | .00 | -.21 |
| 481 | I usually do what others want me to do | .26 | .21 |
| 485 | I would like to reach the age of 80 | -.08 | -.21 |
| 486 | I am careful | -.23 | -.20 |
| 494 | I feel the future looks bright | - | -.20 |
| 496 | My behaviour is planned and not impulsive | - | -.23 |
| 538 | Mother's opinion concerning child (high-value=negative opinion) | .26 | .31 |
| 539 | Mother's opinion concerning child's reports | -.20 | -.28 |
| 540 | Child's average | -.13 | -.32 |
| 640 | Consideration of child's future plans | .12 | -.26 |
| 105 | Social status (high value=low status) | .13 | .27 |

Appendix 11. Correlations of factors of maternal behaviour with Pulkkinen's scales, factors of her scales and life change indexes

| | | Planfulness | Weak self-control of mother | Anomia | Initiative | Belief in destiny | Rigid planfulness | Supporting child rearing | Sacrifying child rearing | Intuitive child centeredness | Punishing child rearing | Authoritarian child rearing attitude | Conforming child centeredness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 403 | Submissive | 04 | 00 | -01 | 12 | -16 | 06 | 21 | -04 | 01 | 03 | -09 | 18 |
| 404 | Active | 14 | -13 | -08 | 05 | 03 | -11 | -08 | -02 | -14 | -18 | -13 | -08 |
| 405 | Anxious | -18 | 08 | 06 | 00 | 11 | 03 | 11 | 03 | 04 | 32 | -07 | 02 |
| 406 | Passive | 14 | 11 | 09 | 00 | 09 | 05 | -07 | -11 | 25 | 17 | 04 | 04 |
| 407 | Strong self-control | 00 | -07 | -10 | 03 | 09 | -06 | 09 | 07 | -09 | 00 | -11 | 09 |
| 408 | Weak self-control | -16 | 06 | 10 | -20 | 03 | 08 | -06 | -10 | -06 | 16 | 20 | -23 |
| 409 | Construc-tive | -04 | -10 | 00 | -00 | -09 | -00 | 08 | 17 | 05 | -13 | -18 | -04 |
| 410 | Aggressive | -34 | 06 | -08 | -15 | -06 | 15 | 04 | 01 | 28 | 03 | 11 | -10 |
| 411 | Defensive aggression | 19 | 04 | -06 | 15 | 05 | -03 | 04 | -12 | -02 | -03 | -09 | 09 |
| I | Strong self-control | 00 | -09 | -07 | 11 | -07 | -03 | 17 | 12 | -25 | -08 | -21 | 16 |
| II | Activity passivity | 02 | 14 | 09 | -00 | 07 | 07 | 10 | -07 | 24 | 20 | -05 | 10 |
| III | Weak self-control | -37 | 06 | 06 | -20 | -00 | 12 | 08 | 12 | -12 | 09 | 08 | -13 |
| 116 | Change frequency | 07 | 20 | 13 | 18 | -11 | 17 | -02 | -06 | 08 | 13 | -14 | 05 |
| 119 | Changes 0-4 yrs. | 04 | -04 | -00 | 16 | 00 | 11 | -05 | -06 | 12 | -00 | -10 | 12 |
| 120 | Changes last year | 21 | 08 | 13 | 16 | -00 | 11 | 14 | 06 | 09 | 08 | -07 | -12 |
| 361 | Weighted changed | 07 | 07 | 10 | 08 | -06 | 13 | 03 | 00 | 08 | 04 | -16 | 15 |
| 5 | Caretakers | 00 | 03 | 11 | -10 | -17 | 06 | -04 | 16 | 00 | 06 | -04 | 05 |

N=111, r=.18, p<.05, r=.25, p<.01, r=.30, p<.001

Appendix 12. Correlations of Pulkkinen's scale with behavioural problems up to the year preceding the interview

| | 432 Sleeping diff. | 433 Allergy | 434 Nightmares | 435 Stuttering | 436 Serious illness | 437 Fatigue | 438 Concentrating diff. | 439 Headaches | 440 Nervousness | 441 Viral infections | 442 Stomach pains | 443 Refused to eat | 444 Nailbiting | 445 Bedwetting | 446 Thumbsucking | 447 Crying | 448 Timidity | 449 Aggression | 450 Tension | 5136 Sum of problems |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 403 Submissive | -01 | 16 | -01 | -11 | -13 | 16 | -00 | 13 | -15 | -01 | -01 | -11 | 00 | -22 | -11 | -00 | 00 | -31 | 01 | -11 |
| 404 Active | 01 | -01 | -00 | 11 | 01 | -01 | 01 | -11 | 00 | -13 | -00 | -01 | -00 | 01 | 01 | -00 | -15 | 01 | -00 | 04 |
| 405 Anxious | 19 | 15 | 11 | 14 | 00 | -01 | 00 | 00 | 12 | 01 | 14 | 11 | -18 | 16 | -11 | 18 | 00 | -00 | 11 | 20 |
| 406 Passive | 01 | 00 | -01 | -00 | -12 | 01 | 00 | -01 | 01 | -01 | -01 | 21 | -10 | -01 | -01 | 12 | 35 | 01 | 14 | 15 |
| 407 Strong control | -00 | 01 | 00 | -11 | -01 | 00 | -16 | 17 | -16 | -00 | -13 | -29 | -00 | -21 | -12 | 11 | -01 | -31 | 00 | -23 |
| 408 Weak control | -00 | -01 | 01 | 19 | 11 | 01 | 33 | 00 | 26 | 10 | 00 | 00 | 01 | 01 | 13 | 00 | 14 | 20 | 26 | 26 |
| 409 Constructive | -00 | 00 | 00 | 00 | 00 | 00 | 01 | 00 | -01 | 00 | -11 | -00 | -01 | -27 | -10 | 01 | -13 | -14 | -00 | -13 |
| 410 Agressive | 13 | -15 | 18 | -00 | 00 | -01 | 01 | 15 | 19 | 01 | 37 | 14 | 00 | 11 | -00 | 01 | 12 | 19 | 15 | 32 |
| 411 Defensive aggression | 01 | -11 | 00 | 11 | 01 | 00 | -00 | -01 | 00 | 00 | -19 | 01 | -00 | 00 | 11 | 01 | -00 | 24 | 07 | |

During the year prior to the interview

| x) | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 403 Submissive | -13 | 01 | -00 | -13 | -15 | 15 | -01 | 00 | -19 | -00 | 11 | -01 | -17 | .. | 19 | -11 | 13 | -24 | -15 |
| 404 Active | 01 | -13 | -01 | 00 | -11 | -12 | 00 | -00 | 13 | 00 | 25 | -12 | 17 | .. | 00 | 11 | -17 | 15 | 15 |
| 405 Anxious | 12 | 13 | 00 | 15 | 19 | 01 | 00 | -01 | 17 | 26 | 01 | 14 | -14 | .. | 00 | 14 | 22 | 24 | 00 |
| 406 Passive | 12 | 00 | 00 | 01 | 15 | 00 | -01 | -01 | -00 | -01 | -11 | 01 | -01 | .. | -00 | -01 | 14 | -01 | 00 |
| 407 Strong control | -01 | 00 | 00 | -01 | -00 | 00 | -18 | 12 | -26 | -00 | -14 | -25 | -13 | .. | 14 | -00 | 00 | 29 | 00 |

x) The content of variable 412 is identical with 432, 413 with 433, etc.

(continues)

Appendix 12. (continued)

During the year prior to the interview

| x) | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 408 Weak control | 21 | -12 | 00 | 27 | 01 | -01 | 37 | -16 | 42 | -15 | 01 | 14 | 18 | .. | 00 | -01 | 01 | 38 | 25 |
| 409 Cons-tructive | 20 | 21 | 00 | 00 | -12 | -15 | -18 | -01 | -22 | 00 | 00 | -13 | -23 | .. | 01 | 00 | -01 | -25 | -12 |
| 410 Aggression | 10 | 00 | 11 | 01 | 00 | 15 | 10 | 19 | 16 | -01 | 18 | 36 | 20 | .. | -01 | -00 | 20 | 22 | -00 |
| 411 Defensive aggression | -00 | 00 | 00 | 12 | 01 | 01 | 00 | 00 | -11 | 21 | -00 | -21 | -00 | .. | 00 | 00 | 00 | 00 | 17 |

x) The content of variable 412 is identical with 432, 413 with 433, etc.

Appendix 13. Correlations of factor scores of child rearing and other maternal features

| | Planfulness | Weak self-control in mother | Anomia in a mother | Initiative in mother | Belief in destiny | Rigid planfulness |
|---|---|---|---|---|---|---|
| Supporting child rearing | -10 | 06 | -25 | -08 | -09 | -02 |
| Sacrificing child rearing | -07 | 02 | 01 | 11 | -10 | -08 |
| Intuitive child centeredness | 01 | 09 | 04 | -00 | 06 | 04 |
| Punishing child rearing | -04 | 10 | 27 | -05 | -06 | 07 |
| Authoritarian child rearing att. | -06 | -04 | 04 | 04 | 03 | -02 |
| Conforming child centeredness | 19 | 30 | 04 | 21 | -10 | 18 |