The social context of mental illness

individual, partner and parental resources

The social context of mental illness
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van de Sociale Wetenschappen

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Voorwoord

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Shirley Oomens

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1 Introduction

1.1 The problem of mental illness, its scientific and societal relevance

Epidemiological research has shown that the likelihood to suffer from mental illness differs depending on one's social position in society. It turns out that women and people with a lower socioeconomic status report higher levels of mental illness (Ross & Mirowsky 1989; Tausig, Michello & Subedi 1999; Turner, Wheaton & Lloyd 1995). The same holds for unmarried people, adolescents, older people and people living in urban areas (Mirowsky & Ross 1989, 1999; Ross & Mirowsky 1989; Turner et al. 1995). In order to explain this unequal distribution of mental illness, many factors have been subject of study. A great deal of research has focused on genetic, biological or personal features (Horwitz & Scheid 1999). From a biological perspective, mental illness is regarded –like other forms of illness- as a defect in the body. More specifically, it is regarded as a defect in the brain that produces signs and symptoms that are associated with mental disorder (Schwartz 1999). From a psychological perspective, mental illness is considered to be an abnormality in the mind or psyche (Peterson 1999). Biological and psychological approaches both search for determinants of mental illness mainly *within* the individual: either genetic or biochemical anomalies or internal mental processes that stem from unique personal histories. However, next to individually-based factors, a person is influenced by external factors arising from his or her social environment (Brown & Harris 1978; Link & Phelan 1995; Tausig et al. 1999; Thoits 1999), thereby introducing a sociological approach to the study of mental illness. From a sociological perspective, determinants of mental illness are primarily located *externally* to the individual, in the social context people live in and in the social structure of society. The social contexts people live in manifest properties that can not be derived from a summation of individual characteristics. So, the key distinction between the three approaches to mental illness is the location of the primary causes of mental illness. In this study we will adopt a *sociological approach* to the problem of mental illness. We will search for determinants of mental illness in the social conditions that people live in. In other words, the social context that people live in will be our main focus as a potential source of mental illness.

A great deal of factors arising from the social context that people live so far have been studied and found related to mental illness (for review see Aneshensel & Phelan 1999; Horwitz & Scheid 1999; Tausig et al. 1999). Much attention has been paid to socioeconomic factors (e.g., social class) and to a lesser extent to social factors and cultural factors on mental illness (Thoits 1999). In the latter tradition, the focus has been on aspects of (lack of) social support or (lack of) religiosity. Research on socioeconomic status has presented strong evidence that having a higher socioeconomic position is beneficial for one's mental health, just as having a higher education or income (Tausig et al. 1999; Turner et al. 1995). Social support has also been convincingly shown to be beneficial to one's mental health (Buunk 1992; Cohen & Wills 1985; Kessler & McLeod 1985; Leavy 1983; Turner 1999; Turner & Marino 1994). As for religiosity, numerous epidemiological and clinical studies (for review see Batson, Schoenrade & Ventis 1993; Braam 1999; Levin & Chatters 1998) have documented the influence of religious affiliation and religious involvement on mental health outcomes, actually going back to Durkheim's (1897/1951) study on suicide. Braam (1999) recently showed that people who left their denomination or attended church less often were more likely to suffer from depressive symptoms than people who remained a member of their denomination or who attended church regularly.

Although each of these research traditions has generated a great amount of insights in the relevant social factors that show an impact on the individual's mental health, so far there has been little exchange between them (House 2002; Thoits 1999). In other words, research traditions have not benefited from each others theoretical progress or empirical findings. Moreover, they have failed to systematically control for a number of social factors that have been found relevant for one's mental health. In order to make progress in the study of mental illness it is considered both necessary and fruitful to study different potential sources of stress *simultaneously*, in other words to conduct a multifactorial approach (Meertens 2004) to the study of mental illness. For example, paid employment in general is associated with good mental health for both men and women (e.g., Menaghan & Parcel 1990). However, combining work and parenthood may induce mental illness, because of (perceived) conflicts between the work and family domain (Davidson & Fielden 1999; Geurts & Demerouti 2003; Greenhaus & Parasuraman 1999; Pugliesi 1989; Rosenfield 1999; Windle & Dumenci 1997). This example stresses the importance of studying different types of resources simultaneously. Testing the effects of different sources of stress simultaneously increases the likelihood to detect spurious relationships and moreover, produces insights into decisive determinants of mental illness. With this study significant theoretical progress is made by exploring the relationship between factors arising from the social context and mental illness more systematically, by using a *multifactorial sociological approach*. We thereby strive to gain more insight in the underlying mechanism of the relationship between social context and mental illness.

Furthermore, with this study we aim to improve upon previous research by using a large-scale dataset representative of the general Dutch population. Most studies have used samples from specific populations like institutionalised psychiatric patients, elderly, adolescents, students or religious people (e.g., Braam 1999; Nooney & Woodrum 2002; Schwab & Petersen 1990; Taylor 2001) to study mental illness. Results from these studies only allow limited generalisation to the general population. At best, samples seem to be

representative of a certain region. A first attempt to fill this lacuna is made by the Netherlands Mental Health Survey and Incidence Study (NEMESIS), which focuses notably on the prevalence and incidence of mental disorder among the general population.

In addition to the scientific relevance of this study there is also a societal relevance. Mental illness is frequently found among people in the Netherlands. Current estimates of the NEMESIS study show that there is a lifetime prevalence of 41 percent and a year prevalence of 23 percent of mental disorder (Bijl, Ravelli & Van Zessen 1998). This means that in the Netherlands nearly one in four people experiences mental disorder during a period of time a year according to DSM-criteria. So, mental disorders are a frequently occurring problem for many people in the Netherlands. Only a small part of them seeks help by the general practitioner or other primary care giving institutions (Bijl & Ravelli 1998; Sytema & Koopmans 1998). The majority of people that suffer from a mental disorder do not seek help. Despite the fact that just a small part of this group reaches public health care, the consequences of suffering from a mental disorder -both individually and societal-, are considered to be large: sickness absence, constraints in social functioning, and even loss of jobs. A study among the Dutch working population showed that sickness absence due to psychological reasons occurred less frequently than sickness absence due to physical reasons, but it takes on considerably longer (Laitinen-Krispijn & Bijl 2002). This indicates that experiencing mental illness often is so restrictive for one's functioning that people are unable to participate on the labour market for quite some time, which in turn increases the risk of permanent work disability. Recent numbers show that mental disorders are the major cause of work disability (Geurts, Kompier & Gründemann 2000). In order to prevent loss of economic productivity and growing costs for public health care (Sytema & Koopmans 1998) it is important to understand who is at risk of mental illness and why. This research contributes to gain more insight into what categories of people are more likely to experience mental illness and under what circumstances.

1.2 Review of previous research

There have been numerous studies on the question why some people become mentally ill and others do not. At first, people who reported mental illness were supposed to be exposed to a greater deal of stressors. The term 'stressor' refers to any environmental, social, or internal demand which requires the individual to readjust his/her usual behavioural patterns (Thoits 1995, 54). This idea is mainly based on the work of Hans Selye (1956) who showed a clear relationship between prolonged stress exposure and disease in animals. His theory, called 'stress theory', in short states that certain environmental stimuli raise tensions. If these tensions are not handled well, they can lead to a reaction of stress and in the end to disease. His convincing evidence turned researchers to the effect of social stressors on human beings, in particular on acute major life change events. Research showed that not change per se, but especially negative life change events were associated with psychological distress and psychiatric disorder as depression and anxiety (Brown & Harris 1978; Pearlin, Lieberman, Menaghan & Mullan 1981; Turner et al. 1995). Although the relationship between negative life events and mental illness was shown consistently, the strength of this

relationship seemed relatively weak (Kessler & McLeod 1985; Thoits 1995). Some researchers have criticized the emphasis given to negative life events in the early stages of the study of mental illness (Aneshensel & Phelan 1999; Pearlin 1999; Tausig et al. 1999). They have argued that negative life events tend to occur randomly and are not embedded into the social structure of society. Therefore, these events are of limited value in explaining why some social groups have higher rates of disorder than others. Focus should be on stressors that are related to one's social position in society, such as chronic stressors (Turner et al. 1995). Attention shifted from negative life events to chronic stress as sources of stress arising from the environment.

However, some people who experienced a great deal of stressors did not become mentally ill, while others who experienced less stressors did. So, people exposed to stressors do not seem affected in the same manner. 'Stress theory' was unable to provide a proper explanation as to why in some cases stressors lead to mental illness and in others cases it did not (Thoits 1999). Cognitive emotion theory, which is considered to be an elaboration of stress theory (Lazarus 1966) focussed attention on one's perception of the stressor. This theory postulates that it is not just the occurrence of a stressor that would cause distress, but rather the interpretation and evaluation of the stressor. If a certain stressor is evaluated by someone as being relevant and unwanted or even threatening, and that someone is unable to reduce the tension evoked by the stressor, this can lead to a stress response. So, according to this theory, cognitive assessment processes are held responsible in evoking stress reactions. The negative impact of stressors on one's mental health is buffered because people use coping strategies or have coping resources such as social support and personality to avert the harmful consequences of stressors.

Both stress theory and cognitive emotion theory focus on the individual's experiences of specific events and chronic strains as causal factors of mental illness. However, they do not account for the fact that mental illness is not randomly distributed in society and that exposure to stressors is related to social positions in society. Structural strain theory, a complementary theory, locates the origins of distress in the broader organization of society. Some social groups (for instance women, the poor and the elderly) are more disadvantaged in a social or economic way compared to others, and therefore have a greater risk of being exposed to stressors and consequently suffer more from mental illness. These social groups suffer more from mental illness due to greater exposure to stressors, which seem a direct consequence of their social positions.

Thoits (1999) states that structural strain approaches tend to emphasise economic factors as causal agents of mental illness while neglecting other sources of stress. Of particular importance may be the organisation and quality of family relations. Thoits' criticism on structural approaches to mental illness seems justified, but next to economic factors and social factors also cultural factors may play a role (Ormel, Lindenberg, Steverink & Vonkorff 1997). The Social Production Function (SPF) theory provides a theoretical framework that encompasses a wide range of factors such as economic and social factors, but also cultural and even personal factors to explain mental illness. This general theoretical framework offers the possibility to synthesize several research traditions that have studied mental illness, thereby providing the opportunity to test more established insights, but also

derive possible new insights. Therefore, SPF-theory may help to develop a full-fledged theory on a wider diversity of potential sources inducing mental illness.

1.3 A general theoretical framework

This study starts of with the theoretical framework of Social Production Function Theory (SPF-theory) (Ormel et al. 1997; Ormel, Lindenberg, Steverink & Verbrugge 1999) in order to understand who is at risk of mental illness. In this study, SPF-theory will not be tested strictly, however it will serve as a framework from which hypotheses on people's social positions and mental illness will be derived. According to SPF-theory, people strive actively towards fulfilment of hierarchically ordered goals. The ultimate goal people strive for is 'psychological well-being'. This top level goal is determined by people's ability to obtain other universal goals: physical and social well-being. The fulfilment of all of these universal goals in turn depends on the obtainment of instrumental goals (e.g., internal and external comfort, stimulation, status, behavioural confirmation and affection). Instrumental goals are therefore means of production for the higher level goals. At the lowest level, people need resources to reach universal and instrumental goals. The amount of resources therefore offers possibilities or imposes constraints in the fulfilment of one's goals. The term 'resources' thereby refers to means of production of psychological well-being that are available to an individual (e.g. time, money, skills, education, social network, technologies) (Ormel et al. 1999, 62). So in the end, psychological well-being is determined by the amount of resources people have. Consequently, people with lower or diminishing resources will have more difficulties in trying to reach psychological well-being. If a person lacks the necessary resources or faces decreasing levels of resources, they may push the individual to a lower level of psychological well-being. Consequently, people with lower or diminishing resources may experience a lack of psychological well-being, i.e., mental illness. A lower level or loss of resources does not necessarily lead to unfulfilled higher level goals and consequently lowering psychological well-being. According to SPF-theory, people with lower or decreasing levels of resources may shift to alternative resources as these are substitutable. However, some type of resources lack the availability of good alternatives (Champion & Power 1995) or in some cases the losses are so severe that they surpass the ability to substitute, pushing the individual to a lower level of psychological well-being.

In this study we will focus on three types of resources: socioeconomic resources, social resources, and cultural resources. Based on the SPF-theory, we state as a general proposition that *lower or decreasing levels of economic, social, or cultural resources can be considered potential sources of stress that may induce mental illness.* Based on this proposition we will derive several hypotheses on people's social positions that may account for variation in mental illness. Moreover, in this study the SPF-theory will be elaborated upon in three ways.

First, SPF-theory focuses primarily on individual resources, not taking into account the *social context* people live in. However, people's mental health may also be affected by the social context in which they live. The social context people live in provides access to resources, but also may regulate exposure to stressors (Aneshensel & Sucoff 1996). Several

social contexts such as country, community and neighbourhood have been studied and found relevant for one's mental health (Fenwick & Tausig 1994; Meertens 2004; Pearlin 1999; Ross 2000; Tausig & Fenwick 1999). For instance, on the country-level, high income inequality was associated with poorer mental and physical health among women with children (Kahn, Wise, Kennedy & Kawachi 2000). Fenwick and Tausig (1994) showed that economic recession affects the individual's mental health through changes in job conditions. Increased macroeconomic insecurity lead to increased job demands, decreased decisional authority and increased job insecurity for employees, which in turn increased stress and lowered life satisfaction. In this book we will examine the impact of the closer social context, that is the *partner's resources* on one's mental health. The impact of the household, in particular of the partner has been fairly overlooked. Many studies have shown that having an intimate relationship with someone is beneficial for one's mental health (e.g., Thoits 1995; Umberson & Williams 1999). However, very few have studied the impact of the partner's characteristics on the individual's mental health. If partners live together, their material conditions are affected by each others resources. Apart from just having a partner, the partner's level of resources therefore may matter for people's health. Sociological studies have illustrated the importance of the partner on a broad range of topics concerning individual's norms and behaviours such as occupation, income, religiosity and voting behaviour (Hendrickx, Uunk & Smits 1995; Van Berkel 1997). Recently, Monden (2003) showed that people with a lower educated partner reported worse physical health, after their own educational level was taken into account. In this study we will focus on the impact of the partner's social background on people's mental health.

Furthermore, we will study the impact of *neighbourhood resources* on mental health, in addition to individual resources. As part of the social context people live in, neighbourhoods are considered to affect mental illness by regulating exposure to stressors and giving access to resources (Aneshensel & Sucoff 1996). Living in a neighbourhood where there is a great deal of unemployment, single-parent families, pollution, and high crime rates has been found to influence people's perceptions and making them vulnerable to symptoms of mental illness (Ross 2000). Also, Meertens (2004) reported that the more adverse economic neighbourhood conditions are, the higher the level of depressive symptoms. These studies show that studying the neighbourhood context of the individual seems relevant in order to understand differentiation in mental health. So, in this study we will examine the impact of partner and neighbourhood resources on the individual's mental health as part of the social context people live in. In terms of SPF-theory we will study whether lower levels of partner and neighbourhood resources in addition to individual resources may induce mental illness. By doing so, we provide important progress in the study of mental illness.

Second, most researchers that study mental illness employ a rather static approach, exploring current conditions and their impact on mental illness. In this study we apply a more *dynamic perspective* to study mental illness, studying individual resources at different points in time. We will focus on *changes* in resources, in addition to current level of resources. From SPF-theory it follows that not only having lower resources at one point in time may induce mental illness, but also decreasing levels of resources. When a person's resources are decreasing over time, one is no longer able to fully fulfil the goals he or she

has. This can lead to distress and in the end to mental illness. Accordingly, we will study whether over time changes in resources affect mental illness, more specifically, to what extent intra- and intergenerational mobility affect one's mental health.

Furthermore, we will examine the impact of *parental resources during childhood* on adult mental health. The conditions people live in during earlier stages of their lives, especially childhood and adolescence may have enduring effect on adult mental health. This indicates a life course perspective on the study of mental health. From a life course perspective the distribution of mental illness results from processes of accumulating disadvantage over the life course (Blane 1999). Although the life course perspective in itself is broader, we will primarily focus on the impact of childhood living conditions on one's mental health in addition to later experiences in life. Research on child development has in fact shown that early childhood conditions are related to adult mental health (Gilman, Kawachi, Fitzmaurice & Buka 2002; Kessler, Davis & Kendler 1997; Sadowski, Ugarte, Kolvin, Kaplan & Barnes 1999), and also physical health (Blane 1999; Van de Mheen 1998; Van de Mheen, Stronks, Van den Bos & Mackenbach 1997; Power, Manor & Matthews 1999). A number of studies examining mental health focussed on particular adverse childhood circumstances such as childhood sexual abuse, parental psychopathology, divorce or family violence, but also socioeconomic conditions have been studied. Lundberg (1993) has shown that besides family conflict or growing up in a broken family, economic hardship during childhood is related to mental illness later on in life. Besides the impact on adult mental health, adverse childhood circumstances may also direct people into lower social positions, which in turn may induce mental illness (Miech, Caspi, Moffitt, Wright & Silva 1999). Low parental socioeconomic positions and poor childhood circumstances set children on lower educational paths which lead to lower adult socioeconomic positions. A lower socioeconomic position in turn increases the likelihood to suffer from mental illness (e.g., Tausig et al.1999; Turner et al. 1995). So, in order to understand who is at risk of mental illness it seems important to take into account early life factors as childhood circumstances besides more recent circumstances.

Third, although many factors have been found to be related to mental illness, the mechanisms that link social positions and mental illness have remained rather unclear (De Ridder 1990; Sytema & Koopmans 1998). In this study we try to bring on more understanding on the mechanisms that link people's social positions and mental illness by focussing on their *subjective perceptions*. Social conditions may be perceived or evaluated differently by people. In order to understand why some people get mentally ill and others do not, it therefore seem of crucial importance to study someone's subjective perceptions of his own situation (De Ridder 1990). Aneshensel (1992) has stated that stress is evoked by the discrepancy between social conditions and characteristics of the individual (one's needs, wants, and goals). Not merely one' s objective situation determines whether or not a stress reactions occurs, but also and more importantly, one's perception and evaluation of the situation towards formulated goals and the possibilities one has to fulfil these goals. In line with SPF-theory, if an individual has limited resources and he or she perceives these resources as insufficient to fulfil stated goals, this may lead to feelings of threat, despair or lower self-esteem, which may induce mental illness. The relationship between objective conditions and subjective perception of these conditions is of great importance for

understanding mental health. In order to make progress in this line of research, the relationship is one that must not be assumed but rather investigated (Ross & Sastry 1999).

As stated above, a significant strength of the SPF-theory is its ability to integrate within a single framework the analysis of a wide range of resources that may affect the risk of experiencing mental illness. By doing so this general framework synthesizes several research traditions that have studied determinants of mental illness. Furthermore, by elaborating SPF-theory by applying a contextual perspective, a dynamic perspective and an explanatory perspective, we will be able to pose new questions and answer old questions in new ways. Accordingly, we aim to improve upon previous research, making theoretical progress in addition to methodological progress, thereby raising further understanding in the study of mental illness.

1.4 Social causation versus social selection discussion

The finding that mental disorders are overrepresented in the lower social strata seems very consistent (Mirowsky & Ross 1989). However, the nature of the relationship between lower socioeconomic status and mental disorder is under persistent debate. Two theories have been proposed to explain the association: the social causation hypothesis and the social selection hypothesis. The social causation hypothesis posits that adversity associated with lower social status causes mental disorder, while the social selection hypothesis posits that people drift into lower social positions due to the experience of mental disorder. So, the social causation hypothesis focuses primary on the stressful characteristics of living in lower socioeconomic environments, and the fewer resources people with lower socioeconomic status have to deal with these adversities, while the social selection hypotheses focuses on genetic predispositions. Both processes seem to take place, but the relative importance varies by the type of mental disorder (Dohrenwend et al. 1992; Johnson, Cohen, Dohrenwend, Link & Brook 1999; Miech et al. 1999). Processes of social selection seem more important for severe mental disorder as schizophrenia, while social causation seems more important for less severe disorders as depression and anxiety (Dohrenwend et al. 1992; Ritsher, Warner, Johnson & Dohrenwend 2001). Overall, the empirical evidence lends more support to social causation than social selection processes (Mirowsky & Ross 1989).

In order to conclude firmly on whether social selection or social causation processes are more important for mental illness, researchers have argued that one needs longitudinal data, preferably panel data. However, in this study we will use a cross-sectional dataset. To make causal inferences on the effect of lower resources on mental illness more grounded we will account for former psychopathology of the respondent. Experiencing mental illness, especially at a young age may prevent people from obtaining higher education or socioeconomic status, or may induce downward intragenerational mobility. In addition to direct social selection, we are also able to test whether social selection may occur more indirectly through parental psychopathology. Weissman and colleagues (1997) showed that family history of mental illness is associated with an increased risk of offspring mental illness. Children of depressed parents were three times more likely to suffer from major depressive disorder than children whose parents were not depressed. So, by controlling for

former psychopathology of the respondent and the psychopathology of the parents we are able to test to what extent social selection -either directly or indirectly- plays a role in the variation in resources and mental illness.

1.5 Research questions

As stated above, this study applies a sociological perspective to the study of mental health, which indicates that emphases will be given to aetiology factors that are related to people's social position in society and the social context in which they live. We focus on a wide range of resources related to one's social position in society that may induce mental illness, thus applying a multifactorial approach to the study of mental illness. In particularly we shall study to what extent current lower levels of socioeconomic, social and cultural resources may induce mental illness. The answers to these descriptive questions enable us to identify social categories in Dutch society that suffer more from mental illness. From the general proposition stated above we are able to generate a large number of hypotheses on indicators of lower socioeconomic, social and cultural resources. So, our first question is as follows:

1. *To what extent do people's lower levels of current socioeconomic, social, and cultural resources contribute to mental illness?*

After examining the impact of current lower individual resources on mental illness, we will subsequently add other determinants of mental illness in a sequence of steps, in order to ascertain their additional predictive power, over and above the included individual determinants. This implies a systematic methodological strategy including different determinants of the individual and the people that are part of the individual's social context.

Next to lower levels of individual resources we will apply a partner perspective to study mental illness as part of the social context people live in. More specific, we will study to what extent the partner's characteristics contribute to the individual's mental health. In terms of SPF-theory, we will examine whether having a partner with lower resources induces mental illness by the partner's ego, in addition to that person's own level of resources. So, our second research question is as follows:

2. *To what extent do lower partner resources contribute to individual mental illness in addition to one's own current resources?*

In addition to the impact of current individual and partner resources we apply a dynamic perspective to study mental illness. First of all, we will focus on the childhood living conditions people grew up in. More specifically, we will study to what extent growing up in adverse childhood circumstances contributes to adult mental illness. People who grew up in adverse childhood circumstances may be more vulnerable to mental illness during their life course. Moreover, growing up in adverse childhood circumstances may affect people's level

of resources. For instance, people with lower socioeconomic status often come from lower socioeconomic status families (Ganzeboom & Luijkx 1995). The parental socioeconomic positions shape the childhood living conditions, which in turn influence the socioeconomic position and adult mental health of their children. Lower parental resources therefore may (indirectly) induce adult mental illness. So, in line with SPF-theory, we will study to what extent growing up in families with lower levels of parental resources may affect one's mental health. In addition to childhood living conditions we will study *changes* in the individual's resources through time. We address the question whether intragenerational (e.g. downward social mobility and/or religious apostasy) and intergenerational mobility, next to one's current social position induces mental illness. As stated above, from SPF-theory it follows that not only lower levels of resources may induce mental illness, but also decreasing levels of resources. So, our third and fourth research questions are as follows:

3. *To what extent do lower parental resources during childhood contribute to adult mental illness in addition to current individual and partner resources?*

4. *To what extent do decreasing individual resources contribute to mental illness in addition to current individual, partner and parental resources during childhood?*

Having lower or decreasing levels of resources does not necessarily lead to mental illness. People with more 'personal' resources may be able to cope better with distress evoked by lower or decreasing levels of resources, therefore be less vulnerable to mental illness. Personal resources refer to personal traits like neuroticism, flexibility, but also self-esteem, and sense of mastery over life (Sanderman 1988). Personality characteristics are considered relatively stable and because of that, they may play an important role in the explanation of mental illness (Mulder, Ranchor & Sanderman 1995). Although our main focus will be on external factors arising from the social environment, i.e., socioeconomic, social and cultural resources, personal resources will be accounted for in this study. Personal resources may influence one's perception, interpretation and evaluation of stressors, thereby alleviating the impact of having lower or decreasing resources. So, the risk to experience mental illness seems to be the result of the social conditions people live in a certain period of time and their individual characteristics (De Ridder 1990). Therefore it seems important to consider these personal resources, in addition to the resources that reflect the social conditions people live in. Moreover, testing all of the different types of resources simultaneously provides the opportunity to compare the relevance of each of these resources for one's mental health. Are the social conditions people live in more powerful predictors of mental illness, or personality characteristics? So our fifth research question is:

5. *To what extent do personal resources affect people's mental health in addition to (decreasing) individual, partner and parental resources during childhood? And which of these resources seem more powerful predictors of mental illness?*

In this study we focus not solely on the individual and his resources but also examine the impact of the resources provided by the social context in which people live. One aspect of social context is the neighbourhood in which people live. We shall examine to what extent living in a socioeconomically, socially or culturally disadvantaged neighbourhood may induce mental illness at the individual level. In terms of SPF-theory, we will study to what extent lower levels of neighbourhood resources are related to individual mental illness. Therefore, our sixth research question is as follows:

6. *To what extent do lower neighbourhood resources contribute to individual mental illness in addition to (decreasing) individual, partner and parental resources during childhood?*

Last, in order to understand why some people get mentally ill and others do not, we will study a person's *subjective perceptions* as a possible mechanism linking objective social conditions to mental health. The relationship between objective conditions and subjective perception of these conditions is often implicated but hardly ever tested explicitly (Ross & Sastry 1999; Pearlin 1999). We shall study more explicitly to what extent one's perception can explain the relationship between lower or decreasing levels of individual and contextual resources of any type (i.e., economic, social and cultural) and mental illness. In terms of SPF-theory, people may perceive their level of resources as inadequate or insufficient to fulfil the goals they have set themselves. This may in turn induce mental illness. So, our seventh research question is as follows:

7. *To what extent can the relationship between lower and decreasing levels of resources at the individual or contextual level and mental illness be explained by subjective perceptions on lower or decreasing resources?*

Over the course of this study we found that in some cases people with higher resources suffer more from mental illness. So, not only people with lower resources may be at risk to suffer from mental illness, but also people with higher levels of resources. In this study, we therefore examine more closely the interface between work and family. People who work outside the home and at the same time take care of children are considered to have higher levels of resources. According to the SPF-theory they should therefore suffer less from mental illness. However, the accumulation of different resources may lead to strain and mental illness. So, in order to gain insight into the social circumstances that make people vulnerable to mental illness, it seems very important to study different types of resources simultaneously (Barnett 1998; Tausig et al.1999). The interface between work and family shows how (higher) levels of different types of resources are interrelated and as such need to be studied. We will study which conditions of (combining) work and family may induce mental illness. So, our final research question reads as follows:

8. *To what extent do combining work and family contribute to mental illness?*

1.6 Mental illness and its measurement

The conceptualisation and operationalisation of mental illness are under intense debate among the researchers of the various disciplines that study this topic (König-Zahn, Furer & Tax 1995; De Ridder 1990). Therefore it is necessary to deal with this issue more extensively before turning to the impact of different types of resources. What is meant by mental illness in this study and how is it measured?

One of the issues there is no agreement on is how health and illness relate to each other: whether it concerns qualitative, discrete entities or continuous attributes (Furer, König-Zahn, & Tax 1995; Sytema & Koopmans 1998). Beliefs about the nature of the phenomena investigated are reflected in the use of measurement techniques (Switzer, Dew & Bromet 1999). The belief that mental illness is a discrete entity, qualitatively distinct from a normal state of mind, is reflected in the use of diagnostic instruments. The use of dimensional instruments indicates a continuous model of mental illness.

The aim of this study is to study the impact of social conditions on mental illness in the general population. The consequences of social conditions are more likely to be continuous and generalized, with ranging severity, rather than discrete and specific (Horwitz 2002). Symptom scales therefore seemed best suited to examine the consequences of social arrangements and the variation in well-being across groups (Aneshensel, Rutter & Lachenbruch 1991; Horwitz 2002). Also, Pearlin (1989) has argued that social scientists need to look for outcome measures that are sensitive to social antecedents and that can rank people according to the intensity of their distress in contrast to outcomes measures that can identify cases from non-cases. Therefore in this study, we choose a continuous symptom scale instead of a diagnostic instrument which is used to assess psychiatric disease. Mental illness and mental health are considered opposite poles of the same continuum (Hodiamont 1983; De Ridder 1990) and so, different labels are used to qualify states of mind along the same continuum.

To find a tool to measure mental illness we set out additional criteria the measurement instrument had to meet. First, the measurement instrument had to be suited for the purpose of measuring prevalence in the general population. Mirowsky and Ross (1989) have argued that scales that assess mental health status on a continuum better describe the psychiatric status of community populations than diagnostic instruments that provide dichotomous distinctions between cases and non-cases. Second, the measurement instrument had to be widely used in research and proven valid and reliable. Third, the measurement instrument needed to sufficiently differentiate between healthy and mentally ill individuals, and in addition differentiate between very ill and somewhat less mentally ill individuals. In other words, the mental health measure needed to show sufficient dispersion, so a wide range of mental health statuses can be covered by the measurement instrument. Last, the measurement instrument needed to be relatively short and the respondent had to be able to fill in the questionnaire himself. The latter indicates that we will focus on self-reported mental health. Subjective mental health gives us information on the experience of mental health, but also may reflect objective (medically diagnosed disease) mental health.

In this study *mental illness* is measured by the short Mental Health Inventory (MHI-5). The MHI-5 is one of the eight subscales of the Medical Outcome Study Short Form-36 (MOS SF-36), which is designed to measure both physical and mental health, as well as social health, thereby closely corresponding to the definition of 'health' chosen by the World Health Organization in 1946: 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. The MHI-5 is a generic measure of mental health as opposed to measures that target specific diseases. It consists of five items in which people are asked if they experienced certain feelings during the last four weeks. These items are a well-considered selection from a larger Mental Health Inventory consisting of 38 items, and cover different aspects of the mental health dimension, namely anxiety, depression, loss of control over behaviour or emotions and psychological well-being (Ware & Sherbourne 1992). The MOS SF-36 has been frequently used in different health studies, across different countries and within different populations (both general population as specific populations of patients). Research has provided consistent support for the underlying scale structure, reliability and validity of the scales of the SF-36 (Aaronson et al. 1998; Berwick et al. 1991; Furer et al. 1995; McCabe, Thomas, Brazier & Coleman 1996; Perenboom & Van Herten 1998; Rumpf, Meyer, Hapke & John 2001; Ware et al. 1998). Ware and Gandek (1998) have stated in an overview article on the SF-36 that …'with rare exceptions, published reliability statistics have exceeded the minimum standard of .70…'. Based on large general population samples from eleven Western European countries, including the Netherlands, the MHI-5 scale showed reliability estimates of a minimum of .80 (Gandek et al. 1998). The underlying factor structure of the SF-36 was also replicated across these countries, which support its construct validity (Ware et al. 1998). Furthermore, the scales of the SF-36 show convincing correlations with similar health measurement instruments such as the 'Center for Epidemiological Studies of Depression Scale' (CES-D), 'General Health Questionnaire' (for instance GHQ-12), 'State and Trait Anxiety Inventory' (STAI). The construct validity of the MHI-5 was also supported based on 'known-group comparisons' (Aaronson et al. 1998). In accordance with literature on mental illness, significant mental health differences were found between men and women and between different age groups.

The MHI-5 has also been shown useful in screening for psychiatric disorder (Berwick et al. 1991, Rumpf et al. 2001). The short MHI-5 performed as good as the MHI-18 and GHQ-30 in detecting mental disorders as major depression and anxiety. The MHI-5 seems well-suited as a screening instrument for mood disorders, and thus appears to reflect objective (medically diagnosed disease) mental health. However, in this study we consider the MHI-5 as a 'risk identifier' rather than as a 'case identifier'. Last, the MHI-5 seems able to differentiate between mentally healthy and mentally ill individuals and shows sufficient dispersion of scores in the open population.

1.7 Outline of this study

This study has the following outline. In the following three chapters we will examine the socioeconomic, social and cultural resources separately, to focus more closely on the impact of the partner's resources, childhood conditions, neighbourhood resources and subjective perceptions mediating the impact of a certain type of resource on mental health. Subsequently, we will focus on the combination of different types of resources, studying them simultaneously. Since our main focus is on external factors arising from the social conditions people live in, i.e., socioeconomic, social and cultural resources, one's personal resources will not be examined separately, but as control variables.

In Chapter 2 we start off by focussing on socioeconomic resources and their impact on mental health. We will give a brief overview of studies that have examined the relationship between socioeconomic position and mental health. Based on the general proposition that stems from the theoretical framework of SPF-theory and our elaborations we derive hypotheses on the impact of lower or decreasing levels of socioeconomic resources and subjective perception on one's level of socioeconomic resources, which will be tested by multivariate analyses. The level of personal resources will be accounted for. In Chapter 3, we focus on lower or decreasing levels of social resources and their impact on mental illness, and in Chapter 4 we examine the impact of cultural resources in a similar way.

In Chapter 5 we study a combination of resources and their (joint) impact on mental health. We focus on the situation in which working outside the home (economic resource) is combined with taking care of children (social resource), in literature also referred to as the work-family interface. We will study which conditions of (combining) work and family may induce mental illness. A brief overview of studies on work-family interface will be given, from which several hypotheses will be derived. These hypotheses will be tested through multivariate analyses.

Finally, in Chapter 6 we will present an overview model in which all different types of resources, that is socioeconomic, social, cultural and personal resources are tested simultaneously in order to examine decisive determinants for one's mental health. This chapter is concluded by summarizing and discussing the main findings of this study. Also, we will discuss the implications of our findings for the debate on the social causation or social selection issue.

2 Socioeconomic resources and mental illness

2.1 Introduction

In this chapter we will study the impact of a lack of *socioeconomic resources* on mental illness. Socioeconomic resources such as socioeconomic status, level of education and income have been given a great deal of attention by sociologists. It seems that knowing someone's socioeconomic status or level of education gives good indications about one's attitudes, values and behaviour. Not surprisingly, social inequality based on an individual's social position in society is considered one of the main questions of sociology (Ultee, Arts, & Flap 1992). Within the field of mental health, socioeconomic factors have been frequently studied and found relevant to one's mental health. People with lower social positions suffer more from mental illness. Lately, research has shown that Dutch society has become more open since the fifties (Ganzeboom & Luijkx 1995), measured by intergenerational socioeconomic status. The social position people obtain seems more directly determined by educational achievement and less by the family origin (De Graaf & Luijkx 1995). Taking into account that nowadays people are better educated, this means that more people should be able to obtain good social position. These developments have had a positive impact on the availability of socioeconomic resources for people in general. As yet, there are still people with relative low levels of socioeconomic resources (Gesthuizen 2004). Although this group of people became smaller over time, they are confronted with increasing economic (and social) risks through time such as job loss and downward mobility.

In this first chapter we set out to find answers to several research questions on the impact of socioeconomic resources on mental health, thereby building on the general framework of Social Production Function theory and the elaborations we proposed in Chapter 1. So besides current individual resources, we will examine resources from the social context people live in and changes in resources through time. In short we will answer the following questions: First, to what extent is there a relationship between current lower individual socioeconomic resources and mental illness? Second, to what extent is there an effect of the partner's socioeconomic resources on mental health in addition to individual socioeconomic resources? The aspect of time is examined in two separate research

questions; one on the available resources during childhood, and one on (recent) changes in resources through time. So, the third and fourth questions are as follows: to what extent is there a relationship between growing up in socioeconomic disadvantaged families and adult mental health? To what extent does intragenerational or intergenerational (downward) mobility in individual socioeconomic resources affect mental health? Besides individual and partner socioeconomic resources we will also study the impact of neighbourhood resources. So, at the neighbourhood level, to what extent is there a relationship between lower socioeconomic neighbourhood resources and mental illness, over and above individual resources? These descriptive questions are followed by an additional explanatory question: to what extent can the relationship between objective different types of socioeconomic resources and mental illness be explained by perceptions of lower or decreasing socioeconomic resources?

2.2 Theory and hypotheses

2.2.1 Current individual resources and mental illness

Epidemiological research has shown that mental illness and disorder are not uniformly distributed throughout society, but are more concentrated in some social strata than others. One of the most consistent findings is the strong association between socioeconomic status and mental health. People with lower socioeconomic status have reported higher levels of psychological distress and mental illness than people with higher socioeconomic status (Aneshensel, Rutter & Lachenbruch 1991; Dohrenwend et al. 1992; Miech, Caspi, Moffitt, Wright & Silva 1999; Mirowsky & Ross 1989; Tausig, Michello & Subedi 1999; Turner, Wheaton & Lloyd 1995). Also, people with lower income and lower education have reported higher levels of mental illness (Ross & Mirowsky 1989; Turner et al. 1995; Tausig et al. 1999). Persistent debates have taken place on the causal relationship of these findings, also referred to as the 'causation-selection discussion' (for a more elaborate discussion see Chapter 1). So, the crucial issue is whether the overrepresentation of mental illness in the lower social strata is caused by adversities linked to social status, or whether people are selected into lower social positions in society based on their mental health. Although both processes seem to take place, empirical evidence indicates that social causation processes are of greater importance in the relationship between social status and mental illness (Dohrenwend et al. 1992).

The three characteristics, i.e., socioeconomic status, education and income in this study will be considered socioeconomic resources which may help people to maintain mental health. From Social-Production Function Theory (SPF-theory) (Ormel, Lindenberg, Steverink & Verbrugge 1999; Ormel, Lindenberg, Steverink & Vonkorff 1997) it follows that if a person lacks the necessary resources to maintain psychological well-being, faces decreasing levels of resources or losses that are so severe that they surpass the ability to substitute, they may push the individual to a lower level of psychological well-being. Therefore, lower or decreasing levels of socioeconomic resources are considered potential sources of distress

that may induce mental illness. In accordance with our general proposition we state that people with lower social class (*hypothesis 1a*), lower income (*hypothesis 1b*) and lower level of education (*hypothesis 1c*) suffer more from mental illness than people with higher socioeconomic status, higher income or higher level of education.

2.2.2 Partner resources and mental illness

Next, we will examine the impact of socioeconomic resources on one's mental health from a partner and a life course perspective. We will focus on the socioeconomic resources of the partner and the socioeconomic family living conditions during childhood and how these may affect one's mental health. So, in the tradition of social stratification research we will more closely examine the role of partner and parents in the mental health of the individual.

In social stratification research the impact of the partner on the person he or she is living with is hardly in doubt. The social background of the partner plays an important role for the norms and behaviour of the individual (Van Berkel 1997). More relevant for this chapter on socioeconomic resources is the partner's impact on the household income and material living conditions. Partners with higher social class or educational level are considered to have more resources, which contribute to household income and consequently may improve material living conditions. Also, the partner's socioeconomic resources may substitute for lower or decreasing levels of socioeconomic resources of the partner's ego. Just like individual socioeconomic resources may affect people's mental health, we argue that the partner's socioeconomic resources also may affect the individual's mental health, over and above people's own individual characteristics. Consequently, people with a partner with lower social class and education suffer more from mental illness than people with a partner with higher social class (*hypothesis 2a*) or higher education (*hypothesis 2b*).

2.2.3 Parental resources and mental illness

From a life course perspective the social distribution of mental health results from accumulating disadvantage over the life course. People with lower socioeconomic status often come from lower socioeconomic status families. This social mobility provides a mechanism by which mental illness can accumulate across the life course. Parental socioeconomic positions shape the childhood living conditions, which in turn influences the socioeconomic position and adult mental health of their children. Research on child development has shown that early childhood conditions are related tot adult mental health (Gilman, Kawachi, Fitzmaurice & Buka 2002; Kessler, Davis & Kendler 1997; Lundberg 1993; Sadowski, Ugarte, Kolvin, Kaplan & Barnes 1999). Many of these studies focus on particular childhood adversities such as childhood sexual abuse, parental psychopathology, separation or family violence. Empirical evidence in both psychiatric patient samples and general population samples confirms that adults who were exposed to childhood adversity are more likely to experience mental illness (e.g., Kessler, Gillis-light, Magee, Kendler & Eaves 1997). Fewer studies have focussed on the socioeconomic conditions children live in, and the

impact these living conditions have on adult mental illness. Lundberg (1993) showed that beside conflicts in the family or growing up in a broken family, economic hardship during childhood is clearly associated with mental illness later in life. Also, young children with early experience of persistent poverty showed higher levels of depression, even if the family's economic situation improved over time (McLeod & Shanahan 1996). Consequently, researchers have pointed to the potential of social experiences to create lasting changes in individual attributes. Individuals that have been raised in families that faced economic hardship may become more vulnerable to negative life events or ongoing strains, especially those related to social status, job or income. So, early economic disadvantages may create lasting risks of experiencing mental illness. We hypothesize that people who grew up in low social status families suffer more from mental illness than people who grew up in higher social status families (*hypothesis 3*).

2.2.4 Over time changing individual resources and mental illness

According to SPF-theory not only people with lower socioeconomic resources at a certain point in time suffer more from mental illness, but also people who face decreasing levels of socioeconomic resources over time. When people's resources are decreasing over time, one is no longer able to fulfil instrumental or universal goals. This can lead to distress, and in the end mental illness. Consequently, we argue that people who face decreasing social class (*hypothesis 4*) suffer more from mental illness than people with a stable or increasing social class. Analogously, people who face decreasing income may suffer more from mental illness. This hypothesis however, can not be tested because our data does not contain information on (objective) decreasing income.

Furthermore, we will distinguish between a recent and less recent decrease in social class. A less recent change in social class is indicated by a decrease in resources during the life course, which will be referred to as intragenerational downward mobility. This distinction in time seems needed since a loss of resources may not necessarily induce mental illness. In some cases people may be able to compensate for over time decreasing levels of resources. For instance, people who become unemployed are faced with a loss of socioeconomic resources. Besides the significant financial effects, losing one's job also threatens one's identity, which increases the risk to suffer from mental illness (Tausig 1999). However, in the long run people may adjust to their situation (Nordenmark & Strandh 1999) or become reemployed again, which (in part) cancels out the increased risk to suffer from mental illness. So, facing a recent decrease of socioeconomic resources may be more harmful for people's mental health than facing a less recent decrease.

Besides the *absolute* amount of socioeconomic resources a person holds at certain points in time we will examine the *relative* amount of socioeconomic resources in comparison with parents and partner. Within the Netherlands, there is a trend towards greater social heterogeneity within marriage (Hendrickx, Uunk & Smiths 1995; Van Berkel 1997). Increasing number of people cohabite with a partner with a different level of education or social class than their own. We argue that the *relative* amount of socioeconomic resources in comparison with significant others, that is parents and partner,

may have (indirect) negative consequences for the individuals' mental health. Social evaluation theories have emphasized that psychological distress may arise from social comparison to significant others (McLeod & Nonnemaker 1999). If people compare themselves unfavourably to significant others, this may result in perceptions of negative self-evaluations, which in turn may induce mental illness. Also, Aneshensel (1992) has stated that stress is not an inherent attribute of external conditions, but emerges from discrepancies between those conditions and the individual's needs and wants. The social evaluation to significant others therefore could lead to psychological distress. People with lower social class as their partner or parents may perceive themselves as less successful. Negative self-evaluation could lead to feelings of failure, low self-esteem and higher levels of stress, which in turn may induce mental illness. Consequently, we hypothesize that people with a lower social class than their partner *(hypothesis 5)* suffer more from mental illness compared to people with the same or higher social class. Also, people with a lower social class than the social class of the family they grew up in suffer more from mental illness (*hypothesis 6*). A decrease in social class compared to the parents is also described as intergenerational downward mobility.

2.2.5 Neighbourhood resources and mental illness

Most of the research in the study of mental health has focused on individual factors such as life- events, personal characteristics and social networks. More recently, researchers have started to study the impact of contextual levels, such as community or neighbourhood, on an individual's mental health (Taylor, Repetti & Seeman 1997). On the community level for instance, Kahn and colleagues (2000) showed that next to the household income the relative distribution of income within a community also affects an individual's mental health. They found that women with lower income in communities with high income inequality had higher risk of depressive symptoms than women with lower income in communities with low income inequality.

As for the neighbourhood level, studies have shown that next to individual characteristics also neighbourhood characteristics affect the individual's mental health (Ross 2000; Silver, Mulvey & Swanson 2002; Meertens 2004). Neighbourhoods may induce mental illness because of (the perception of) limited opportunities, resources and lack of social integration or cohesion. Compared with more privileged places, they may have lower levels of informal social ties that bind neighbours together and people may experience the break-up of social networks because of high levels of residential turnover (Pearlin 1999). One of the first studies on the impact of the neighbourhood on people's mental health in the Netherlands was Verdonk's (1979), which dealt with the geographical distribution of psychiatric patients in the city of Rotterdam. This study stems from the tradition of the Chicago-school and concluded that the development of the city lead to processes as social segregation and social breakdown. This study showed that neighbourhoods with high concentration of low SES-families, unemployed men, geographic mobility and church heterogeneity have higher concentrations of psychiatric patients. More recently, Ross (2000) showed that -using multilevel analysis- residents of poor neighbourhoods with high rates of

single parent families have higher levels of depression than residents from more advantaged neighbourhoods. A large part of the relationship appeared to be compositional, due to the fact that disadvantaged neighbourhoods are composed of individuals with similar social status sharing similar hardship, but a significant contextual effect was found. Similar results were reported by Silver and colleagues (2002) and Meertens (2004). Meertens (2004) showed that the more disadvantaged socioeconomic neighbourhood conditions are, indicated by proportion of people with minimum wages or lower and unemployed people, the more people suffer from depressive symptoms. These studies suggest that neighbourhood characteristics are important determinants of mental illness. Therefore, In addition to the social context of the household people live in, we will explore the impact of neighbourhood characteristics on people's mental health, over and above their individual's characteristics. In line with the SPF-theory we state that neighbourhoods provide resources that may affect people's mental health. We hypothesize that neighbourhoods with lower levels of socioeconomic resources indicated by high rates of unemployed people, people with lower social class or education, and lower mean income induce mental illness at the individual level (*hypothesis 7*). Analogously, we hypothesize that neighbourhoods with decreasing socioeconomic resources induce mental illness at the individual level (*hypothesis 8*).

2.2.6 Explanations for the relationship between socioeconomic resources and mental illness

Explanations for the inverse relationship between social status and mental illness have been sought in the exposure to stressors and the availability of resources (Thoits 1999; Turner et al. 1995). People with lower social status would experience more negative events and ongoing strains in their lives than people with higher social status, and as a result report higher levels of mental illness (Miech et al. 1999; Turner et al. 1995). Also, people with lower social status would have less coping resources to deal with negative life events or chronic strains (Murray 1995; Thoits 1999).

Empirical evidence on the relationship between social status and exposure to negative life events shows mixed results. Some studies have reported that people with lower social status experience more negative life events (e.g. Brown & Harris 1978; Turner et al. 1995), while others have found the relationship to be insignificant (e.g. Kessler & McLeod 1985). These inconsistent findings may be partially due to varying measurement of acute negative stressful life events. The selection of stressful life events often seems rather arbitrary or applied to certain age groups, which certainly affects the extent to which a significant relationship is found. One could state that no firm conclusions can be drawn regarding the differential exposure to negative life events by social status groups. In addition, Pearlin stated (1999) that the impact of acute negative life events need not be exaggerated, since they are considered part of the human condition and as such represent universal experiences. Acute negative life events are considered unrelated to the social structure of society as opposed to ongoing strains. Ongoing strains have been consistently shown to be inversely distributed by social status (McLeod & Kessler 1990; Turner et al. 1995) and seem

more damaging to both mental and physical health than acute negative life events because of the enduring nature of the strains. For instance, people with lower socioeconomic status often have less good jobs and as a result earn less income. This financial situation is often difficult to turn around and has impact on many other areas in life (e.g. housing, money for healthcare, leisure activities). The impact of work (combined with other social roles) on mental illness will be given special attention in Chapter 5.

We will focus on subjective perceptions as the mechanism through which objective conditions are linked to mental illness. Following cognitive emotion theory (Lazarus 1966) we argue that not just the occurrence of stressors -either ongoing strains or acute negative life events- may cause a stress reaction which may induce mental illness, but the perception and evaluation of stressors. If people perceive their level of socioeconomic resources as insufficient or inadequate to reach certain goals this may push the individual to a lower level of mental health. Therefore, we hypothesize that people with lower or decreasing socioeconomic resources suffer more from mental illness due to the perception of socioeconomic insecurity *(hypothesis 9)* and relative financial deprivation *(hypothesis 10)*.

As stated, a second explanation for the relationship between lower social status and mental health is the availability of resources. People with lower socioeconomic status would have poor social, material, or personal resources to cope with undesirable life events and ongoing strains and as a result report higher rates of mental illness. A sense of perceived control or mastery over life circumstances has been consistently shown to buffer against the negative effects of stress exposure on physical and mental health. The perception of control is shaped by the objective social conditions people live in and therefore may act as a mediator between lower socioeconomic resources and mental illness. People with inadequate resources to achieve valued goals, that is good mental health, may feel that they have no control over their own life. Empirical findings have supported these theoretical notions: people with lower social status, lower level of education and lower income show a lower sense of personal control than higher social status groups (Mirowsky & Ross 1989, Pearlin, Lieberman, Menaghan & Mullan 1981, Ross & Sastry 1999, Ross & Mirowsky 1989). So, coping resources are found least where they are needed most. Also, Pearlin and Schooler (1978) found that individuals with lower social status were more likely to use ineffective coping strategies than people with higher social status. Additionally, inadequate coping resources may affect the emotional vulnerability to stressful life events and conditions (Thoits 1999). We hypothesize that people with lower or decreasing socioeconomic resources suffer more from mental illness due to the perception of lower mastery *(hypothesis 11)*.

2.3 Data and measurement instruments

To test hypotheses on the individual level we use a large-scale cross-sectional dataset that has been newly collected as part of the national Dutch survey 'Social and Cultural Developments in the Netherlands 2000 (SOCON)' (Eisinga et al. 2002). This cross-sectional survey is a replication and extension of four previous surveys (SON 1979, SOCON 1985, SOCON 1990, SOCON 1995). The aim of the SOCON-surveys is to investigate developments

in the Netherlands on a wide scope of subjects like religious beliefs and church involvement, value systems, political attitudes and political participation, ethnocentrism, conservatism and attitudes towards intimate relationships. Also, extensive information is gathered on the respondents' social background and that of his partner and parents. A substantial part of the SOCON 2000 survey comprised questions related to mental illness relevant for this study.

In selecting respondents, a two-stage stratified random sampling method was followed. First, the Netherlands was first divided into four regional zones, that is: North (encompassing the Dutch provinces Groningen, Friesland, and Drenthe), East (Overijssel, Gelderland, and Flevoland), West (Utrecht, Zuid-Holland, and Noord-Holland), and South (Zeeland, Noord-Brabant, and Limburg). Within these four regional zones 80 municipalities were randomly selected according to their degree of urbanisation to ensure that all types of areas were represented according to their proportion in the population. Next, these municipalities were requested to select a random sample of their residents aged 18 to 70 from their population registers. The fieldwork took place from September 2000 to February 2001. A total of 70 trained interviewers were involved in the survey. Before conducting the fieldwork they received a detailed interview-instruction on complicated parts of the questionnaire. The respondents were interviewed face-to-face guided by a CAPI-questionnaire. This computer-assisted personal questionnaire indicated to the interviewer which questions had to be asked. The verbally answered questions were coded immediately, except for the open-ended questions. Additionally, the respondents were asked to fill out a self-administered written questionnaire, which was returned by mail. By doing so the respondent was promised a gift token of 25 NLG. The interviewers tried to contact a total of 2896 respondents. Some participants were unable to participate or were not at home at five different times. Excluding these dropouts, the adjusted sample size became 2305. In the end 1008 interviews were completed, that is a net response rate of 43.7 percent. This proportion is not much smaller than is usual in face-to-face interviews conducted in the Netherlands. From the research sample 91.4 percent of the respondents returned the mail-questionnaire.

To examine whether the respondents form a representative sample of the general Dutch population the distribution of three socio-demographics variables, that is age, sex and marital status, were compared with census data for the Netherlands dated January 1st 2000 (CBS 2000). Additionally, χ^2 goodness-of-fit test were used to test whether possible deviations were significant. The age distribution of the sample showed that respondents younger than 29 were slightly underrepresented relative to their proportions in the population. The respondents aged 45-49 were somewhat overrepresented. Although rather small, these deviations of the actual sample frequencies from the expected sample frequencies turned out statistically significant ($\chi^2=34.3$, $df=9$, $p=.000$). Since the deviations in the age distribution are not very large, we do not expect biased estimates. The sex distribution of the sample did not significantly differ from the sex distribution in the population ($\chi^2=.16$, $df=1$, $p=.687$). The deviations from the population for marital status were not significant ($\chi^2=3.6$, $df=3$, $p=.308$) either. One need to keep in mind that people with severe mental health problems may not be represented in our data. Hospitalised people were not sampled and people with severe mental health problems who live at home may be less willing to participate in our survey.

Additionally, we examined whether the group of respondents that returned the mail questionnaire showed possible deviations from the general research population. No significant deviations between the research group and the group of respondents that returned the mail questionnaire were found with respect to the three socio-demographic characteristics sex (χ^2 =1.2, df=1, p=.272), age (χ^2 = .5, df=9, p=1.000) and marital status (χ^2 =.7, df=3, p=.864). This means that there are no indications of selection-processes taking place with respect to these variables in this research.

To test hypotheses at the contextual level we use data that have been collected by 'Geo-Markt profiel' through, among other things, a method of projection. This implies that within a certain zip code area people are interviewed by telephone or written questionnaire about the neighbourhood they live in for instance about what types of houses their neighbourhood consists of. No specific information is gathered about the household of the respondent, only about the neighbourhood they live in, which is defined by the interviewer before the actual interview takes place. The number of people questioned is raised until a consistent image of the neighbourhood emerges. The information gathered about a zip code area through the projection-method is less dependent on individual households which may not be very homogeneous, and this method therefore leads to more reliable information. Additional databases like PTT, GIS, RAI Data Centrum and the Great Consumer survey are used to gather as much information as possible about neighbourhoods.

Mental illness

In this study *mental illness* is measured by the short Mental Health Inventory (MHI-5). The MHI-5 consists of five items in which people are asked if they experienced certain feelings (e.g. anxiety and depression) during the last four weeks. Answering categories ranges from: all of the time, most of the time, a good bit of the time, some of the time, a little of the time to none of the time. In the first chapter, we presented more detailed information on the conceptualisation of mental illness and aspects of validity of the MHI-5. The five items are a well-considered selection from a larger Mental Health Inventory consisting of 38 items, and cover different aspects of the mental health dimension, namely anxiety, depression, loss of control over behaviour or emotions and psychological well-being (Ware & Sherbourne 1992). A factor analysis showed that the five items all refer to one dimension with factor loadings varying from -.60 to .78. Results of the factor analysis are presented in Table 2.1. The five items form a reliable measurement instrument (Cronbach's alpha =.77). Before constructing sum scores over the five items, the two positive items (v3261 v3262) were mirrored. A scale score was calculated if a respondent answered at least half plus one of the items of the MHI-5. In 13 cases one item was left blank by the respondent. If so, the average score across the four completed mental health items was imputed on the blank item. In two cases all five mental health items were blank; they will be treated as missing data. After constructing the sum scores over the five mental health items, the scores were linearly transformed[1] to a scale ranging from 0 to 100, with high scores indicating better mental

[1] Transformed scale = ((actual raw score – lowest possible raw score)/possible raw score) x 100 (see Ware 1993, p 6:17).

health[2]. The transformation of scores makes interpretation of the variable easier and, more importantly, it makes comparison with other (inter-) national studies possible. The process of the construction of the MHI-5, treatment of missing data, item-recoding and so on is very extensively documented in the SF-36 Health Survey manual & interpretation guide (Ware 1993). In Figure 2.1 the distribution of mental health scores in our sample is presented. The mental health in the general Dutch population is normally distributed, but somewhat skewed to the left. This figure shows that the majority of the population is in good mental health.

Table 2.1 *Distribution and results of factor analysis of dependent variable (N=993)*

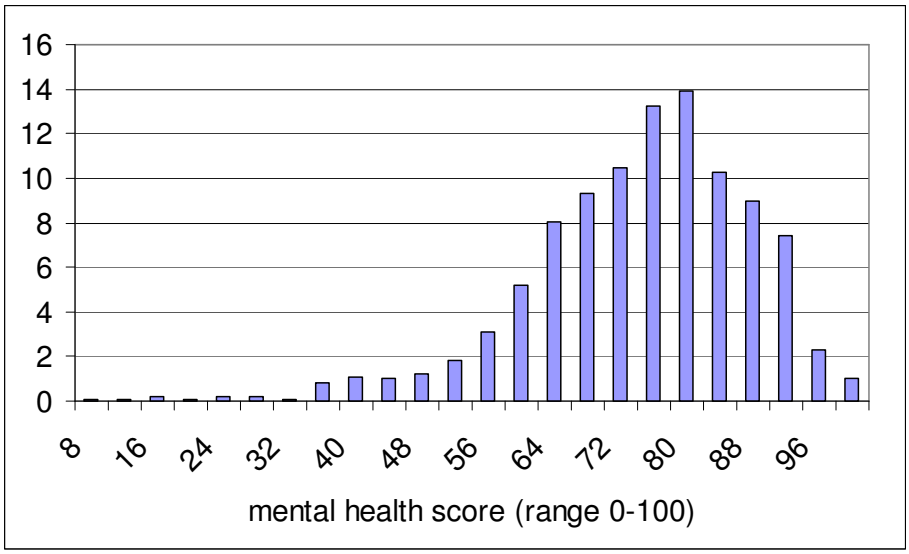
Items		percentage		valid cases	h^2	factor loadings
		all to some of the time	little / none of the time			
Mental Health (MHI-5)						
V3258	felt so down in the dumps nothing could sheer me up	11.0	89.0	1005	.48	.69
V3259	felt downhearted and blue	33.5	66.5	1005	.61	.78
V3260	have been a very nervous person	34.3	65.7	1002	.32	.56
V3261	felt calm and peaceful	93.3	6.7	1001	.32	-.57
V3262	have been a happy person	96.2	3.8	1004	.36	-.60
Total variance explained		.42				
Cronbach's alpha		.77				

Point prevalence

Screening instruments are often used in research and clinical practice as case finding instruments of psychiatric disorders. In order to be helpful in primary care settings it is essential to be able to differentiate between mentally unhealthy and mentally healthy persons. Therefore, one needs to define a cut-off point in the range of scores of the MHI-5 scale. The designers of the MHI-5 have recommended to use the score of 52 as a cut-off point; a score of 52 or lower indicating bad mental health and a score 53 or higher indicating good mental health. For the SOCON data this would give an overall (one-month) point prevalence of mental illness of 6.9 percent (for men 4.2 percent and for women 8.5 percent).

[2] In this study, mental illness and mental health are considered bipolar ends of the same continuum. The labels mental health and mental illness are used alternately to qualify different states of mind along the same continuum. People with higher MHI-5 score are considered to have better mental health, while people with lower scores are considered to have less good mental health and thus more mental illness.

Figure 2.1 *Self-assessed mental health (Source: SOCON 2000)*



Other studies have found comparable low percentages of mentally ill with usage of the MHI-5-scale. The NEMESIS-study (Netherlands Mental Health Survey and Incidence Study) reported an overall point prevalence of 6.5 percent (Bijl, Zessen & Ravelli 1997). In a survey held in 1996 by TNO-PG among Dutch inhabitants of 16 years or older (N=1771) 11.5 percent of the Dutch population were found to be mentally ill (for men 8.9 percent and for women 14.9 percent) (Aaronson et al. 1998). However, the cut-off point of 52 seems rather arbitrary and these low rates of mentally ill people raise the question whether the cut-off point is suited for the Dutch situation. Perenboom and colleagues (2000) have tried to answer this question by comparing -among other things- the relative number of persons labelled as mentally healthy and no psychiatric diagnose. The combination labelled as mentally ill and rightly diagnosed with a psychiatric disease with the relative of these percentages should be as high as possible in order to differentiate well between mentally ill and mentally healthy persons. The authors concluded that a cut-off point of 72 meets this criterion best. For the SOCON data this would give an overall (one month) point prevalence of mental illness of 42.9 percent. This would mean that more than 4 out of 10 persons reported a month-prevalence of psychiatric disorder. However, using this new cut-off point to give an estimation of prevalence of mental illness in Dutch society would be at the expense of comparability of prevalence rates of other studies. Since the consequences of social conditions are more likely to be continuous, with severity ranging from very small to very large, the use of cut-points can underestimate the stressful consequences of these arrangements (Horwitz 2002). Considering the aim of this study we will use the continuous symptom scale and use the MHI-5 as a 'risk identifier' rather than as a 'case identifier'.

Socioeconomic resources at the individual level

The *social class* of respondents was constructed based on several questions. First, respondents were asked whether or not they had a paid job at the moment. The respondents who stated to have a paid job at the moment were asked to describe their profession, most important proceedings and kind of business or institution they worked in. Additionally, they were asked if they were self-employed, employed in (family) business or governmental institutions and whether they gave guidance to other people in their job and if so, to how many people. Based on these questions a typology was constructed according to Erikson, Goldthorpe and Portocarero (1983) comprising five categories (EGP-score): higher professional, lower professionals/ routine non- manual employees, small proprietors, skilled manual workers, and unskilled manual workers. Respondents who stated not to have a paid job at the moment were asked about their most important activities. These activities were reduced to four categories: being retired, fulltime student, working in own household, and unemployed. The variable social class is constructed by joining the information of the respondents who did have a paid job at the moment and respondents who did not have a paid job. So, all respondents have received a social class-score based on their current social position. Four out of ten people in our sample, 39.4 percent belonged to the lower professionals and routine non-manual employees. Also, people who worked in their own households were well represented in our sample, 10.7 percent. To measure *income* respondents were asked to indicate the monthly household income after taxes on a list that was handed over by the interviewer. The list showed twelve categories: less than fl.1000, between fl.1000 and fl.1399, between fl.1400 and fl.1799, between fl.1800 and fl.2199, between fl.2200 and fl.2599, between fl.2600 and fl.2999, between fl.3000 and fl.3999, between fl.4000 and fl.4999, between fl.5000 and fl.5999, between fl.6000 and fl.7499, more than fl.7499, and unknown. The modal household income after taxes in the sample was between fl.4000 and fl.4900. Of the total sample of 1008, 5.7 percent of the respondents refused to answer the question or were unable to give an indication of their household income. The *educational level* of respondents was measured by asking the respondent for the highest level of education completed after elementary school. For 7.1 percent of the respondents their educational career had ended after elementary school, 51.6 percent of the respondents indicated to have completed up to secondary vocational school (MBO) and 29.1 percent completed college (HBO) or university (WO).

Partner's socioeconomic resources

The *social class of the partner* was constructed similar to the social class of the respondents. A large majority of our sample, 82.8 percent of the respondents stated to have a partner. Most of them, 36.3 percent turned out to be lower professionals or routine non-manual employees and 16.6 percent were housekeepers. The *educational level of the partner* is measured by asking the respondents what the highest completed level of education of their partner was. Of the partners 7.0 percent did not complete any school after elementary school, 51.3 percent have completed up to secondary vocational school and 29.9 percent completed college or university.

Parental socioeconomic resources

As indicator for *parental socioeconomic resources during childhood* the respondent grew up in, we used the social class of the father[3] when the respondent was at the age of twelve. The social class of the father was constructed for those fathers who had a paid job at the time the respondent was at the age of twelve, or fathers who previously had been working. Of the total sample, only 21 fathers did not have a paid job at the time the respondent was twelve years old, 15 of them were retired or in between jobs. The social class of the father is constructed in a rather similar way as the social class of the respondent except, we did not use the information on most important activities when the father did not have a paid job, since it contained little extra information. A typology was constructed according to Erikson, Goldthorpe and Portocarero (1983) comprising seven categories: higher professionals, lower professionals, routine non-manual employees, small proprietors (also including farmers and agricultural workers), lower-grade technicians/supervisors of manual workers, skilled manual workers, and unskilled manual workers. In our sample, about a quarter (27.2 percent) of the respondents grew up in lower social class families of skilled or unskilled manual workers, and another quarter (24.8 percent) grew up in a family of small proprietors.

(Recent) decreasing socioeconomic resources

To measure a recent decrease of socioeconomic resources, a variable *recent unemployment/ incapacitated* was constructed to see if the respondent became unemployed or incapacitated for work in the last five years preceding the interview. From the respondents who stated not to have a paid job at the moment, their main activities were determined. If respondents stated to be in between jobs or incapacitated for work, the respondent was asked since when this situation occurred. Based on this information a dichotomy was constructed. Only 2.0 percent of the respondents had encountered such a recent loss of socioeconomic resources in the last five years. A less recent decrease of socioeconomic resources or *intragenerational mobility* was measured by comparing the respondents first social class score (EGP) by their recent social class score. Based on both social class scores a typology was constructed comprising three categories: same social class, decreasing social class in time, increasing social class in time. The majority of the respondents, 57.6 percent showed no intragenerational mobility in social class, 13.2 percent showed a downward mobility, and 29.3 percent showed an upward mobility in social class.

To establish the relative amount of individual socioeconomic resources we compared the current social class score (EGP) of the respondents with the current social class score (EGP) of their partners. A variable *intragenerational mobility compared to the partner* was constructed comprising three categories: same social class than partner, lower social class,

[3] No information on the social class of the mother when the respondent was twelve years old was available. The respondent was only asked if their mother had a paid job when the respondent was twelve years old, and if so, how many hours she usually worked. Less than a quarter of the mothers, 23.1 percent had a paid job, most of them working 20 hours a week. So, in this case the socioeconomic status of the family seems best indicated by the social class of the father. The social class of the mother will become more relevant in future research since more women seem to participate in the labour market, working substantial hours.

and higher social class than partner. Only 26.5 percent of the respondents found a partner with similar social class, 34.9 percent of them had a partner with higher social class than themselves, and 38.6 percent had a partner with a lower social class than themselves. Similarly, a variable *intergenerational mobility* was constructed based on the comparison of the current individual's social class and the social class of the father when the respondents were twelve years old. Of our sample, 22.5 percent of the respondents showed no intergenerational mobility in social class compared with the social class of the father, 44.8 percent of the respondents showed upward intergenerational mobility and 32.6 percent showed downward intergenerational mobility in social class. An overview of all the variables described in this section is presented in Appendix A.1.

Socioeconomic neighbourhood resources

The socioeconomic resources of the neighbourhood were indicated by *percentage of unemployed people, social class, and educational level* and *mean income*. These characteristics of the neighbourhood have been measured through the method of projection as described earlier. Social class comprises five categories which are based on information about the mean income within a zip code, level of education and house ownership. For instance, social class category A is labelled a mean income that is more than modal income, high level of education (college or university, O-level, A-level) and high percentage house owners. Educational level consist of three categories: lower educational level, secondary educational level, and higher educational level. Mean income within a zip code is related to the modal income in the Netherlands. The modal income in 2000 in the Netherlands amounts to fl. 50.000,- a year before taxes. The mean income of a certain zip code was categorised: two times the modal income or more, between modal income and two times the modal income, modal income, between modal income and the minimum income, minimum income, diverse income and unknown.

Control variables: personal resources

We will take the potential impact of personal resources into account when studying the effect of socioeconomic resources on mental illness. We thereby will make a distinction between (1) personal resources that may increase the risk of experiencing mental illness and (2) personal resources that may decrease the risk of experiencing mental illness. Variables that we will control for are: acute negative life events, childhood adversity, respondent's psychiatric history, family psychiatric history, chronic physical disability, personality characteristics, gender and age.

Acute negative life events have been given a great deal of attention within the study of mental illness. It was thought that people who more often reported mental illness were exposed more strongly to so-called stressors, usually measured by acute negative life events. Although a relationship between acute negative life events and mental illness was found rather consistently, its ability to explain the variation in mental illness was very limited. Attention shifted to other factors like personality, support and coping. Pearlin stated (1999) that the impact of negative life events may not be overlooked, but they must be considered unrelated to the social structure of society. Also, negative life events like death and illness are considered part of the human condition and as such represent universal

experiences. Following Pearlin's statement, acute negative life events will be given only moderate attention in this study. Acute negative life events were assessed by presenting the respondent a short list that contained negative life events. Respondents were asked if (one of) these life events had occurred during the last five years: death of (one) the parent(s), death of a dear one (partner, child, close friend), victim of serious criminal acts, or a dear one getting seriously ill. No less than 73 percent of the respondents reported one or more of such negative life events happened to them in the last five years. A typology was constructed by counting the number of acute negative life events.

Also, the respondent was asked if sweeping negative events occurred during childhood and adolescence to indicate *childhood adversity.* The potential impact of childhood traumatic events (acute or chronic) and situations on adult psychopathology is hardly in doubt (Wheaton, Roszell & Hall 1997). To measure childhood adversity an open question was posed. This brought on a great deal of information. On the basis of the description of situations from the respondent a dichotomy was constructed with code 1 if respondents described situations or events that are labelled in psychological literature as 'childhood adversity' and pose a risk in developing adult psychopathology. In the literature a wide scope of situations are considered 'childhood adversities': 1) maternal and paternal psychopathology (depression, generalised anxiety disorder, alcoholism, drug dependence, antisocial personality disorder), 2) interpersonal loss-events (death mother or father, parental separation, parental absence of six months or longer, respondents' absence of six months or longer (= attending boarding school, living with other relatives)), 3) interpersonal trauma (maternal or paternal verbal or physical aggression towards each other or the respondent, sexual abuse, being a victim of serious criminal acts), 4) parenting styles (over-protectiveness, lack of warmth, neglect), or any events that are more severe in level of threat than the usual life-change events, and because of their severity are thought to have greater potential for long-term impacts than most other types of stressors. Also, these events may occur as isolated events or as long term chronic problems (Kessler et al. 1997; Wheaton et al. 1997). From the 642 respondents who answered this question, 43.9 percent were classified as to have been in a situation of childhood adversity. Since physical health and mental health affect each other and often share common causes (Ross, Mirowsky & Goldsteen 1990), the respondent was asked if he or she suffered from a *chronic physical disability*. In the sample 29.8 percent of the respondents suffered from a chronic physical disability.

A very important discussion within the study of mental illness is whether the relationship between low resources and mental illness arises from social causation or social selection processes (for an elaborate discussion on this issue see Chapter 1). Evidence on this matter shows that, with the exception of schizophrenia, social causation processes are considered more significant than social selection processes. Also, research has shown that pre-adult onset is a very important risk factor in predicting adult disorder. The social distribution of psychological disorder during adolescence appears to be parallel to the adult distribution of disorder (Aneshensel & Sucoff 1996). So, in order to obtain some clues about possible selection-processes we have asked the respondent if he or she has ever been treated by someone for mental complaints in order to establish a possible *psychiatric history*. If the respondent stated to have been treated for mental complaints, at what age he or she

was treated for the first time for such complaints. It was found that 14.5 percent of the respondents have been treated one time or more for mental complaints, the average age of treatment being 31.7 years. The youngest respondent in our sample was treated for mental complaints at the age of 6, the oldest at the age of 66. A typology was constructed based on both variables with the answering categories: (0) never treated for mental complaints, (1) treated one time between age 6 and 29 (2) treated one time between age 30 and 66, (3) treated two times or more between age 6 and 29, (4) treated two times or more between age 30 and 66. Also, the respondent was asked about the *family psychiatric history* that is if direct family (parents, brothers or sisters) have ever been treated for mental complaints. These questions may give us clues about possible genetic influences, but moreover provide insight in the environmental impact of growing up in certain families. Of the respondents, 26.9 percent stated that either one of more direct family members were ever treated for mental complaints.

Personality characteristics were measured by a Dutch version of the 'Big Five' measure of Goldberg (1990) (Gerris et al. 1998), which is a widely accepted instrument to measure a person's personality. Goldberg showed that an extensive list of trait adjectives can be represented by a five-factor model, also named 'The Big-Five' model. This five-factor model has been proven robust across different countries, demonstrating the generality of this model (Kohnstamm 1992). In our survey, respondents were presented thirty personality characteristics and were asked to indicate for each characteristic whether it applied to them. Confirmatory factor analysis produced the Big-Five factor structure analogous to results of the study by Gerris and colleagues (1998)[4]. The five factors were labelled: I Extraversion, II Conscientiousness, III Agreeableness, IV Emotional stability and V Resourcefulness. All of the five factors showed satisfactory reliability-coefficients, ranging from .79 to 86.

The variable *gender* is coded 0 for men and 1 for women. Men and women were almost equally represented in the sample, 49.8 percent men and 50.2 percent women. The *age* of the respondents was measured by asking respondents their year of birth. The average age of the respondents included in the sample was 43.7 years. Previous studies have shown that the relationship between age and mental illness is curvilinear (Mirowsky & Ross 1989, 1999): feelings of depression being more common among the younger and older age groups, and less common among the middle-aged. Preliminary analyses showed that including a variable age-squared did not result in a significant better model. This may be partially explained by the sample procedure: only respondents between 18 en 70 years old were included in our sample. Substantial declines of mental and physical disabilities usually occur beyond the age of 70 (Mirowsky & Ross 1999). Based on our empirical findings we will assume the relationship between age and mental illness to be linear. A description of the personal resources as well as the results of the factor analysis described above is presented in Appendix A.2 and A.3.

Perceptions on socioeconomic resources

The *perception of socioeconomic insecurity* is measured by nine items in which the respondent is asked to what extent he or she perceives one's current socioeconomic

[4] Oblique factor analysis showed that the five factors only moderately correlate together (lower than .30). Therefore, the five factors may be considered independent.

situation as worrying. Factor analyses first showed two factors, one of them included two items (v3217 and v3218). Since the variance (Eigenvalue) of this factor equals one, it does not meet the criteria that factors should have variances greater than one. Also, the given resolution seemed rather difficult to interpret. So, we decided to construct one scale including all items. The nine items make a valid and reliable measurement instrument (Cronbach's alpha=.82). All items showed communalities higher than .20 and factor loadings ranging from .42 to .68. A new variable was constructed by calculating the mean score over all items. A substantial part of the respondents had one or more missing values on the nine items. In order to enlarge the number of valid cases a mean score was computed when respondents had at least six valid scores. *Relative financial deprivation* is measured by one single item. The respondent was asked to compare his current financial situation with the situation five years ago. A majority of the respondents, 65.2 percent reported that they felt their financial situation had improved in the last five years, 14.3 percent felt their financial situation deteriorated over the last five years. A *sense of mastery* is measured by seven items in which the respondent is asked to what extent he or she feels to have control over one's life. The scale is derived from Pearlin and Schooler (1978) and translated into Dutch by us. Factor analysis showed that two (positive) items had low communalities (lower than .20). These items (V3212 and V3213) were removed from our analyses. The remaining items showed factor loadings between .46 and .72. Then, sum scores were constructed over the five items (Cronbach's alpha =.75). A description of the variables and the results of the factor analysis described in this section is presented in Appendix A.4.

2.4 Method

In order to estimate the effects of individual and contextual characteristics simultaneously, we at first applied multilevel modelling. Our focus was on individuals (level 1) nested within neighbourhoods (level 2). Unfortunately, our data turned out inadequate to do so. As a consequence, none of the hypotheses on the impact of neighbourhood characteristics on the individual's mental health could be tested. A large majority of the neighbourhoods included in our sample lacked a substantial number of observations (less than 5 observations), and half of them consisted of only one observation. A certain amount of observations within the level-2 unit is necessary to adequately estimate the different parameters. In order to overcome this problem we explored whether there is variation on a higher level, the level of the municipality. We started off by estimating a random intercept model with no predictors, allowing the intercept to vary on both levels. This model is also referred to as the empty model or null model. The degree to which the mental health scores from individuals in the same municipalities resemble each other as compared to those from individuals in different municipalities can be determined by the intra-'class' correlation. This is the between-municipalities variance expressed as the proportion of the total variance. This ratio turned out very close to zero (0.000), meaning that the individual's mental health scores may be considered independent of the municipality they were drawn from (no cluster-homogeneity). We repeated the procedure again focusing on individuals nested within districts (three digits zip code). This gave similar results (intra-'class' correlation=0.001). We must conclude from

these analyses that there is no variation to explain at the district- or municipality level. Since we are unable to test with our data whether there is variation in mental health-scores between individuals within the same neighbourhoods compared with individuals in different neighbourhoods, this possibility still exists.

To test the hypotheses at the individual level we applied multiple regression analyses. The effect of different types of resources will be tested in several subsequent steps. We will start off by examining the impact of the individuals' current resources on mental illness. This model serves as a 'base-model'. After examining the impact of these individual resources on mental illness, other (socioeconomic) resources will be added in a sequence of steps to asses their relevance for people's mental health, over and above these individual socioeconomic resources. By adding different types of resources stepwise we are able to ascertain how the effect of the individual resources on mental illness is affected by taking into account the resources of partner and parents, changes in resources over time and personal resources. Such a strategy provides more understanding on what the formulated elaborations and derived hypotheses actually add to the 'established' insights on the impact of individual resources at one point in time on people's mental health. So, in the second model we will test the additional insights of applying the partner perspective to study mental illness, followed by the parental resources during childhood and the resources that indicate changes over time. In the first four models we examine the impact of sociological resources on people's mental health. Moreover, we will examine the impact of personal resources in addition to the resources of the individual and his/ hers social context. Last, we will include so-called intervening determinants, i.e., subjective perceptions on the social conditions that people live in, in order to explain the previously established relationships between resources and mental illness. The strategy of analysis described here will be applied in all empirical chapters of this study.

Several categorical variables were dummified (Hardy 1993) in order to be able to draw conclusions about potential differences between categories of respondents: social class of the respondent, social class of the partner, recent unemployment/incapacitation, intragenerational mobility, intragenerational mobility compared to the partner, intergenerational mobility, acute negative life events, and the psychiatric history of the respondent and its family. In addition to the relevance of socioeconomic and personal resources for people's mental health, we want to conclude on the decisiveness of different determinants. To do so one needs to examine standardized regression-coefficients. In order to be able to compare the relative weight of these dummified categorical variables with other variables included into our analyses we constructed new composite variables, so-called compound variables for the dummified variables. The compound variable is computed as the weighted sum of the previously estimated unstandardized regression coefficients (Eisinga, Scheepers & Van Snippenburg 1991). Then, we estimated the model again, now with these compound variables. The direction of the parameters of these standardized compound variables cannot be interpreted meaningfully, since it is positive by definition as a consequence of the procedure. For the direction of the parameters one needs to inspect the unstandardized regression coefficients. Results will be discussed at the end of this chapter.

The variables acute negative life events and childhood adversity had substantial numbers of missing scores. By computing a dummy for the respondents that had missing

scores on each of these two variables we were able to test whether data was missing randomly. In both cases these respondents did not have significantly different mental health scores. In order to enlarge the number of respondents both variables were recoded: score zero indicating having encountered no acute negative life events or childhood adversity or having a system missing on (one of) these variables. A similar problem occurred for the variables that measure the socioeconomic resources of the partner. In our sample 173 people stated not to have a partner. So, this substantial amount of subjects would be excluded from our analyses once socioeconomic resources of the partner are taken into account, since missing values are deleted listwise. In order to avoid the risk of non-representativeness in dropping these subjects and the loss of statistical power we applied a procedure described in detail by Cohen and Cohen (1975), which enables us to maintain the 173 subjects without partner in our analyses[5]. This conventional procedure requires an arbitrary value to be imputed on the missing scores of the interval variable that people without partner would be excluded from (e.g., educational level of the partner). We choose to impute the mean educational level score on this variable for people without a partner. In addition, a missing dummy variable that equals one if data are missing and equals zero otherwise, was included in our analyses. The imputed values on the variable educational level of the partner do not influence the regression estimates as shown by Cohen and Cohen (1975) and Allison (2002).

2.5 Results

In Table 2.2 the unstandardized regression coefficients for seven models are presented. Model I is considered the 'base'-model, which examines the effect of the three traditional socioeconomic resources on one's mental health. In the second model the socioeconomic resources of the partner of the individual are taken into account, in addition to the individual's own characteristics. In model III the effect of the socioeconomic parental resources during childhood on mental illness is examined, and model IV considers the impact of (recently) decreasing socioeconomic resources on people's mental health. In model V and model VI the impact of socioeconomic resources and decreasing resources on mental health is controlled for by personality characteristics and other personal resources that may affect an individual's mental health. Finally, in model VII three intermediating variables are included to examine to what extent relationships between (objective) socioeconomic resources and mental illness is interpreted by subjective perceptions.

[5] Although conventional, the dummy variable adjustment method seems to produce biased estimates if data are truly missing according to Allison (2002). Yet, it is appropriate in cases were the unobserved values simply does not exist as it is in our case. In that situation optimal estimates are required using the dummy variable adjustment method (Allison 2002).

Table 2.2 *Empirical model I to VII: unstandardized regression coefficients of (decreasing) social resources and personal resources on mental health (Nmin=681); Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)*

Model	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Constant	73.61	75.82	76.56	77.49	81.26	80.93	56.88
Socioeconomic resources							
Social class of respondent (higher professionals = ref)							
lower professionals/ routine non-manual employee	**-4.58****	**-3.86***	**-3.85***	**-4.44***	**-3.53***	**-3.49***	**-2.87~**
small proprietors	**-5.80***	**-6.26***	**-6.44***	**-6.78***	**-6.14***	**-4.36~**	**-5.05***
skilled manual worker	-1.77	-1.67	-1.80	-2.21	-1.74	.29	-.30
unskilled manual worker	**-4.59***	**-4.39~**	**-4.70***	**-4.87~**	-4.36	-2.76	-3.30
retired people	-.06	-1.78	-2.27	-3.08	-3.10	-2.42	-2.40
students	**-10.40****	**-8.56****	**-9.24****	**-11.14***	**-11.96****	**-12.01****	**-13.14****
housekeepers	**-6.55****	**-5.81****	**-6.28****	**-7.44****	**-6.55****	**-4.58***	**-4.40~**
people on welfare	**-10.91****	**-10.45****	**-10.81****	**-13.84****	**-10.34****	**-7.19****	**-5.46***
Income	**.76****	**.47***	**.41~**	.28	.09	-.17	**-.46~**
Level of education of respondent	-.10	.19	.19	.19	.41	-.07	-.28
Social class of partner (higher professionals = ref)							
lower professionals/ routine non-manual employee		.21	.19	.26	-.01	-.75	-.71
small proprietors		1.08	1.13	.97	-.76	-1.24	-.62
skilled manual worker		-3.46	-3.78	-3.92	**-4.25~**	-2.66	-1.29
unskilled manual worker		1.53	1.53	1.11	1.41	-1.46	-1.53
retired people		2.33	2.33	2.23	3.19	1.97	3.29
students		-1.85	-1.76	3.99	2.33	2.94	3.60
housekeepers		**3.59~**	**3.56~**	3.74	3.16	.86	1.50
people on welfare		-.96	-.93	.10	1.54	-1.18	.04
Level of education of partner		-.26	-.28	-.16	-.29	-.21	.02
Not having a partner (having partner = ref)		**-5.23****	**-4.80***	**-5.11***	-3.35	**-4.25~**	**-4.29~**
Social class of family			-.02	.03	-.13	-.50	-.12
(Recent) decreasing socioeconomic resources							
Recently unemployed/ incapacitated for work (not recently unemployed = ref)				3.85	2.54	-.23	-3.22
Intragenerational mobility (upward mobility = ref)							
no mobility				.30	-.20	**1.75~**	**1.71~**
downward mobility				-.71	-.60	1.58	2.26

Model	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Intragenerational mobility compared to partner (higher social class = ref)							
same social class than partner				-.21	-.02	-.21	-.09
lower social class than partner				-.24	.11	-.57	-.79
Intergenerational mobility (higher social class = ref)							
same social class than family				-.23	-1.05	-.87	-.46
lower social class than family				.42	-.92	-2.39	-.99
Personal resources (1)							
Acute negative life events (no negative life events = ref)							
one negative life event					-.04	-1.31	-1.17
two negative life events					1.22	-1.14	-.69
three negative life events					-.93	**-2.53~**	-.63
four negative life events					1.89	-4.44	-2.87
Childhood adversity (no childhood adversity = ref)					**-2.23***	-1.46	-.64
Psychiatric history respondent (never treated = ref)							
treated one time, first time age 6-29					**-9.34****	**-5.24***	**-4.89***
treated one time, first time age 30-66					**-5.92****	**-4.36***	**-4.25***
treated two times or more, first time age 6-29					**-12.01****	**-7.31***	**-6.90***
treated two times or more, first time age 30-66					**-19.57****	**-14.02****	**-13.68****
Psychiatric history family (no psychiatric treatment = ref)							
only parent(s) or siblings psychiatric treatment					-1.17	-.74	-.68
both parent (s) and siblings psychiatric treatment					-1.12	-2.02	-1.33
Chronic physical disability (no physical disability = ref)					-.21	-.29	.06
Personal resources (2)							
Extraversion						.07	-.45
Conscientiousness						-.08	-.46
Agreeableness						**1.28***	.59
Emotional stability						**6.78****	**5.04****
Resourcefulness						**1.08***	**.86~**
Gender						.65	.73
Age						**.10***	**.09~**
Intermediating variables							
Perception of socioeconomic insecurity							**-2.00****
Relative financial deprivation							.46
Sense of mastery							**1.43****
Adjusted R^2	.07	.10	.10	.10	.16	.37	.47

Socioeconomic resources of the respondent: social class, income and level of education

The 'base-model' shows that nearly all lower social class categories suffer more from mental illness than the reference category, the higher professionals. There seem to be two exceptions to this statement. The skilled manual workers and retired people show equally good mental health than the reference category. *Hypothesis 1a* therefore needs to be partially rejected. People on welfare and students suffer most from mental illness compared to the reference category, followed by the housekeepers and small proprietors. So, people without a paid job are at greater risk to experience mental illness than people with a paid job. When including socioeconomic resources of the individual's social context and their personal resources are taken into account (model VI) the unskilled manual workers also no longer seem to differ from the higher professionals.

As for income, it can be seen that as income increases, one's mental health also increases. So, people with lower income suffer more from mental illness than people with higher income. When controlling for a decrease in socioeconomic resources (model IV), the effect of income no longer seems to increase one's mental health. This means that a recent decrease in income because of a loss of job or lack of social mobility -although these effects themselves are not significant- explains why people with lower income suffer more from mental illness. In model VII can be seen that when we control for subjective perceptions the effect of income turns significant again. Surprisingly, now the effect is negative, indicating that under control of these perceptions, people with higher income suffer more from mental illness. Perceptions of socioeconomic insecurity and mastery seem to suppress the relationship between income and mental illness. *Hypothesis 1b* needs to be rejected.

Hypothesis 1c also needs to be rejected. People with lower educational levels do not suffer from mental illness more than people with higher education. Bivariate analyses showed educational level to be (weak) positively related to mental health. However, the multivariate analyses fail to show such effect. In none of the different models presented in table 2.2 does the educational level of the respondent show a significant effect on mental illness. So, studies (e.g. Turner et al. 1995) that stated that people with higher educational levels are less likely to suffer from mental illness are not replicated here.

Partner's resources

When controlling for the socioeconomic resources of the partner (model II) most of the effects of various social class categories and income decrease. This means that the mental health scores of individuals may be partially explained by the socioeconomic resources of the partner. By including the socioeconomic resources of the partner in the model, the explained variance of the mental health scores increases from 7 percent to 10 percent, meaning that these resources influence the mental health of the individual independently of the individuals own socioeconomic resources. So, the socioeconomic resources of the partner account for one third of the total variance explained of the mental health scores of individuals in this model, while the socioeconomic resources of the individual account for two third.

When looking at the effect of the social class of the partner it can be seen that in the second model only the effect of having a fulltime housekeeping partner is significant. However, the effect is positive, which indicates that having a housekeeping partner is

beneficial for the mental health of the partner's ego. Therefore, *hypothesis 2a* needs to be rejected. Apparently, one's mental health benefits more from having a partner who stays at home to take care of the household and children, than having a partner with higher socioeconomic status. The positive effect of having a fulltime housekeeping partner disappears when individuals are faced with decreasing socioeconomic resources (model IV). When personal resources such as childhood adversity and the psychiatric history of the respondent and his family are included (model V), the effect of having a partner who is a skilled manual worker turns significant. When personal resources that may protect people from mental illness are included the effect decreases and turns non-significant again.

Just as the educational level of the respondent does not affect the respondent's mental health, nor does the educational level of the partner. So, *hypothesis 2b* needs to be rejected. At last, having a partner, apart from his social status or level of education, decreases the likelihood to suffer from mental illness. When we include the personal resources in the model that may increase the risk of experiencing mental illness, that is acute negative life events, childhood adversity, psychiatric history of the respondent and its family, physical handicap and general health (model V), the parameter decreases and turns non-significant. This may indicate that people facing certain setbacks in life may have more difficulties finding a partner or holding on to a partner (in part) because of these circumstances. Eventually, the effect of having a partner turns significant again when controlling for personality characteristics and perceptions (model VII). The impact of having a partner on one's mental health will be studied in more detail in the next chapter that deals with social resources.

Taken together, the socioeconomic resources of the respondent seem much more important for the risk to experience mental illness than the socioeconomic resources of the partner. Although the socioeconomic resources of the partner do explain some of the variance found in mental health-scores among individuals, having a partner shows more impact on people's mental health than the amount of socioeconomic resources of the partner. So, it seems more important to have a partner than having a partner with higher social class or level of education.

Parental resources during childhood

Model III explores the impact of the parental resources during childhood, after the socioeconomic resources of the respondent and their partner are accounted for. The social class of the family the respondent grew up in shows a negative effect on one's mental health, however the parameter fails to reach significance. So, there seem no direct negative mental health consequences of growing up in socioeconomic disadvantaged families. *Hypothesis 3* therefore needs to be rejected.

Although there seems no direct impact of lower parental socioeconomic resources on mental illness, growing up in socioeconomic disadvantaged families may affect people's level of socioeconomic resources and so indirectly affect adult mental health. This seems to be the case, as is shown in table 2.3.

To a large extent, the socioeconomic resources of the family people grew up in determine people's level of socioeconomic resources. The social class of the father and educational level of the mother have positive effects on the respondents' educational level.

People who grew up in lower social class families attain lower educational levels. The psychiatric history of the respondent at age 21 and his parents thereby do not affect people's educational level. So, there seems no selection into lower educational levels because of a prior history of mental illness of the respondent or his family. In turn, people with lower levels of education attain lower social class. The social class of the father and the educational level of the mother at first seem directly associated with the individuals' social class. As father's social class and mother's educational level increase, so does the individuals' social class. However, once the educational level of the respondent is taken into account, the effect of father's social class and mother's educational level turns non-significant. So, the impact of socioeconomic parental resources on the individual's social class runs primarily through the educational level of the respondent. From the standardized regression coefficients it can be seen that the individual's educational level seems far more important for one's social class than psychopathology at the age of 21 and family psychopathology. So, the educational level substantially determines the eventual social

Table 2.3 *Indirect effects of parental socioeconomic resources on adult mental health: impact of socioeconomic childhood living conditions on level of education and social class of the respondent*

Model	Educational level		Social class		Social class	
	b	ß	b	ß	b	ß
Social class of father	**.29****	**.26**	**.10****	**.11**	.00	.01
Education of mother	**.29****	**.25**	**.11****	**.11**	.01	.01
Psychiatric history respondent at age 21 (no treatment = ref)	.51	.04	-.48	-.04	**-.66**~	**-.06**
Psychiatric history parents (no treatment = ref)	.10	.02	**.41***	**.08**	**.37***	**.07**
Education of respondent					**.34****	**.40**
Adjusted R^2	.18		.04		.16	

Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)

class of the respondent. Remarkably, the effect of family psychopathology on social class is positive, which indicates that people whose parents have been treated for mental complaints attain higher social class. This result needs to be interpreted with care because respondents were asked whether their parents *ever* have been treated for mental complaints, instead of whether they were treated when the respondent was growing up. Parents may well be treated for mental complaints after people obtained higher education or social class.

Overall, our results indicate cumulative disadvantage of growing up in lower socioeconomic families during the life course. Lower parental socioeconomic resources influence educational levels, which in turn leads to lower social class. Lower social class in turn negatively affect people's mental health as has been stated above. So, the effect of

social background on one's mental health will be overestimated when the socioeconomic childhood living conditions are not taken into account. These results primarily support the causation argument: people obtain lower social class or educational level because they grew up in families with lower socioeconomic resources, not because they or their parents suffered from mental illness during childhood or adolescence.

(Recent) decreasing socioeconomic resources

Model IV deals with changes in socioeconomic resources. First, people that recently became unemployed or incapacitated for work do not differ from people who did not recently became unemployed or incapacitated for work in their mental health. Yet, this conclusion needs to be treated with care since only 2 percent of our sample indicated to have lost their job during the five years preceding the interview, which brings on a lack of statistical power for good hypothesis-testing. Second, when looking at less recent changes in socioeconomic resources, it can be seen that people who experienced downward mobility in time do not suffer more from mental illness than people who experienced upward mobility during their life course. Also, people who experienced no social mobility during their life course do not suffer more from mental illness compared to people who experienced upward mobility. On the contrary, when personal resources like personality characteristics, age, gender and subjective perceptions are taken into account (model VI and model VII), people who show no intragenerational mobility appear in significant better mental health than people who show upward intragenerational mobility. Overall, *hypothesis 4* needs to be rejected. We found no support that a recent or less recent decrease of socioeconomic resources negatively affect people's mental health. A loss of resources may be compensated for by other (socioeconomic) resources.

Model IV also shows the impact of having lower individual socioeconomic resources in comparison with a partner or family. People with lower social class in comparison with their partner do not suffer more from mental illness. Therefore *hypothesis 5* needs to be rejected. The same holds for *hypothesis 6.* People who experience no or even downward intergenerational mobility do not suffer more from mental illness compared to people who experienced upward intergenerational mobility. Objective lower social class in comparison with significant others does not negatively affect people's mental health.

To summarize, all of these findings contradict our proposition that people with –either recent or less recent- decreasing or relatively lower socioeconomic resources suffer more from mental illness. In the worst case there is no difference in mental health between people who show no or (relative) downward socioeconomic status and people who show upward (relative) socioeconomic status. At best, they suffer less from mental illness.

Personal resources

In model V, personal resources that may increase the likelihood of experiencing mental illness are included in the model. The variance in mental health-scores explained by the predictors thereby increases from 10 percent to 16 percent. With regard to acute negative life events, model V shows no significant effects of people that have experienced one or more life events. Some parameters seem positive, while some are negative. Once personality characteristics, gender and age are included into the model (model VI) all

parameters are negative. The effect of experiencing three acute negative life events turns significant. The effect can be explained by perceptions of socioeconomic insecurity and sense of mastery (model VII). It seems that the experience of a random stressor itself does not harm one's mental health. However the accumulation of randomly occurring stressors within a relatively short period of time put people at risk to suffer from mental illness. So, in part our findings support the notion that negative life event are part of the human condition and that it may be more important how people deal with these events than whether or not people encounter these events. Yet, accumulation of random stressors may make people vulnerable to mental illness (De Ridder 1990). Accumulation of stressors increases feelings of powerlessness over life and insecurity over one's financial situation, as our results show.

People who faced childhood adversity suffer more from mental illness compared to people who did not face childhood adversity[6]. The effect disappears when controlling for personality characteristics, age and gender (model VI). So, the reported relationship between childhood adversity and mental illness is brought upon by personality characteristics, age and gender.

When we look at the psychiatric history of the respondent, it seems that people who have been treated one time or more for mental complaints suffer more from mental illness than people who have not been treated. As for the frequency of treatment, people who have been treated two times or more suffer more from mental illness than people who have been treated only one time during their life. Both these results seem rather obvious. When we consider the respondent's age the first time he or she received treatment no clear pattern is found, meaning that being treated at a young age does not necessarily more often induce adult mental illness. However, being treated for mental complaints somewhere over the life span often implies a long-term vulnerability to mental illness. Mental illness may become a chronic disease. Results from the NEMESIS-study showed that in one out of five cases, depression seems a chronic disease, recurring over the life course (Vollebergh et al. 2003). Moreover, being treated for mental complaints does not necessarily indicate that people never suffered from mental illness. Only a small number of people with (severe) mental complaints seek help by a general practitioner or other primary caregiving institutions (Sytema & Koopmans 1998; Vollebergh et al. 2003). Reported treatment thus underestimates the actual number of people who suffer from mental illness.

As for the psychiatric history of the direct family, the effect of having either one or more direct relatives who have been treated for mental complaints does not seem to increase the risk to suffer from mental illness. The bivariate relationship between the psychiatric history of close family members and mental illness disappears when socioeconomic and personal resources are taken into account. So, people who grew up in certain families do not necessarily suffer more from mental illness. The same holds for having a chronic physical disability. People with a physical disability do not suffer more mental illness than people without such a condition. This indicates that one's physical health does not necessarily affect one's mental state of mind.

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[6] Some researchers (Kessler et al. 1997) have argued that it is important to distinguish between different types of childhood traumas as they may show different effects on mental illness. In our case, this would lead to small numbers of observations in the majority of categories.

In model VI, personality characteristics are taken into account. By doing so the variance in mental health-scores explained by all predictors increases from 16 percent to 37 percent. So, personality characteristics, age and gender seem very important in understanding mental illness; even more important than childhood traumas or growing up in a certain family, although personality characteristics may be partly influenced by them. Not all of the five personality characteristics show a significant direct effect on mental illness. Only emotional stability, agreeableness and resourcefulness decrease the risk to experience mental illness. People who describe themselves as emotionally stable personalities suffer less from mental illness. The same holds for people who describe themselves as agreeable personalities or being resourceful and inventive personalities. People who describe themselves as being 'kind or nice' are considered to have high self-esteem. Although low self-esteem could be a result of mental illness, most researchers consider high self-esteem to protect against mental illness.

As for gender, our findings show that women do not suffer more from mental illness than men. Bivariate analyses showed significant differences between men and women in mental health scores. Women had lower mental health-scores than men and therefore suffered more from mental illness. However, the multivariate analyses which control for various types of. socioeconomic and personal resources (model VI), fail to show such effect. Studies that have reported an effect of gender on mental illness (e.g., Mirowksy & Ross 1989) were not reproduced here.

Model VI also shows that as people get older, they suffer less from mental illness (see previous comments on age). This statement has been supported by other studies (e.g. Mirowsky & Ross 1989; Tausig et al. 1999). Young people are faced with a great deal of life changes: for instance they gain education, get married, have children, start to work. These transitions in the life course may elevate levels of distress and in the end may induce mental illness. Later on in life people face less life transitions and have more resources, both economic and social, to cope with life's problems.

Intermediating variables

Last, we included the explanatory variables perception of socioeconomic insecurity, relative financial deprivation and sense of mastery in our model (Model VII). By doing so, the explained variance in mental health-scores increases again to 47 percent, meaning that these variables on their own contribute to the explanation of the variation in mental health. As can be seen, feelings of mastery positively affect mental health, yet in different ways. People who feel that they are in control of their own life suffer less from mental illness while people who perceive their socioeconomic situation as more worrying suffer more from mental illness. Bivariate analyses showed feelings of financial deprivation to be related to mental illness. In the multivariate results, feeling financially deprived is not associated with mental illness and so cannot interpret the relationship between objective socioeconomic resources and mental illness. *Hypothesis 10* therefore needs to be rejected.

As for explanatory qualities of the remaining subjective perceptions, we argued that people with lower or decreasing socioeconomic resources suffer more from mental illness due to the perceptions of less mastery and more socioeconomic insecurity. Most of the reported significant effects become smaller, meaning that the relationship between these

resources and mental illness can be at least partially explained by these perceptions. The effects of the personality characteristics agreeableness and resourcefulness are fully explained by the perceptions mastery and socioeconomic insecurity. People with high self-esteem or who describe themselves as resourceful suffer less from mental illness, because they feel more in control of their lives and perceive their socioeconomic situation as less worrying. In two cases including perceptions of mastery and socioeconomic insecurity does increase the reported effect on mental illness. In these cases, subjective perceptions seem to suppress the relationship between certain socioeconomic resources and mental illness. So, based on the effects of the socioeconomic resources of the individual and its social context, *hypotheses* 9 and *11* need to be partially rejected. None of the effects of (decreasing) socioeconomic resources fully vanish.

Relative weight of socioeconomic resources

Not all variables that were considered to affect mental illness showed significant direct effects, when controlling for others, but in the end the presented model is able to explain half of the variance in mental health. To answer the question which of the above variables that showed significant direct effects on mental illness, are most important in increasing the likelihood of mental illness, we looked at the standardized regression coefficients (see Appendix A.5). For the dummified categorical variables we computed compound variables to establish their relative weight as we described earlier.

Being an emotionally stable personality seems far best to protect against mental illness, followed by the sense of having control over one's life. Less decisive but still significant is the psychiatric history of the respondent. People who experienced mental illness during one point in time run considerable risk to suffer from mental illness later on in life. Other variables which showed (a more moderate) impact on the risk to suffer from mental illness, were: having a partner, the perception of socioeconomic insecurity, the social class of the respondent and its partner, income, intragenerational mobility and age. When we look at the three 'traditional' socioeconomic resources of the individual, social class seems most important to one's mental health, followed by income. Educational level does not directly affect one's mental health. So, not all socioeconomic resources seem equally important and consequently may compensate for lower or decreasing resources.

2.6 Conclusions and discussion

In this chapter we examined the impact of socioeconomic resources on mental illness. Our first research question which dealt with the relationship between current lower individual socioeconomic resources and mental illness can be answered positively. It turns out that people with lower social class suffer more from mental illness than people with higher social class. Lower professionals, small proprietors, people on welfare, housekeepers and students all suffered more from mental illness. Compared to the employed, people without a paid job were found to suffer most from mental illness, with the exception of the people who have retired. An interpretation for these findings may be found in the meaning people attach to having a job. Work is considered to be a highly valued and central aspect of people's life,

which not only provides money to satisfy primary needs as food, but also gives purpose and meaning to one's life and is considered a principle source of identity. Nordenmark and Strandh (1999) showed that unemployed people who managed to adapt to the unemployment situation and maintain their social identity by means other than having a job, had relatively good mental health. So, people without a job need to define their social identity by other means than having a job, which may not be easy. Difficult to interpret was the increased risk for students to suffer from mental illness. Although often students do not have a great amount of financial resources, their prospects of getting a job and income are good. Nevertheless, students have been confronted with increased financial and educational strains over the years. The governmental financial support has declined, while college tuition and educational demands to perform well and at a high rate have increased.

Table 2.4 *Overview of hypotheses on socioeconomic resources and support*

Hypotheses		Support
Current individual socioeconomic resources		
H1a	lower social class	in accordance with hypothesis
H1b	lower income	in accordance with hypothesis
H1c	lower educational level	rejected
Partner's socioeconomic resources		
H2a	lower social class of partner	rejected
H2b	lower education level of partner	rejected
Parental socioeconomic resources		
H3	growing up in socioeconomic disadvantaged family	no direct effect, but indirect effect
Over time changing socioeconomic resources		
H4	decreasing social class (recent –less recent)	recent: rejected #, less recent: rejected
H5	lower social class compared to partner	rejected
H6	lower social class compared to family	rejected
Neighbourhood socioeconomic resources		
H7	lower socioeconomic neighbourhood resources	not tested
H8	decreasing socioeconomic neighbourhood resources	not tested
Perceptions on socioeconomic resources		
H9	mental illness due to perception of socioeconomic insecurity	in accordance with hypothesis
H10	mental illness due to perception of relative financial deprivation	rejected
H11	mental illness due to lower sense of mastery	in accordance with hypothesis

based on very small numbers

While people with lower socioeconomic resources overall suffered more from mental illness, there were exceptions. In some cases people with lower socioeconomic resources showed equally good mental health as people with higher resources. This applied to the skilled manual workers for which Turner, Wheaton & Lloyd (1995) have reported similar findings, but also to the unskilled manual worker. People with lower social class not necessarily suffer more from mental illness compared to people with higher social class. As for the individual's educational level, this socioeconomic resource did not affect people's mental health. Having a higher educational level did not (directly) improve people's mental health nor did it protect from mental illness. Studies that have reported beneficial effects of education on people's mental health were not reproduced here (e.g., Ross & Mirowsky 1989; Turner et al. 1995). In the case of income, after accounting for personal resources and intermediating perceptions, our result showed that people with higher income suffered more from mental illness. The initial negative effect of lower income on mental health became positive when including additional variables. Possibly, people with higher income may feel they have more to lose and because of that, suffer more from mental illness. Further research seems needed.

So, when we look at the 'traditional' socioeconomic resources -social class, income and level of education of the respondent- we do not necessarily support earlier studies that reported that people with lower socioeconomic status, lower income and lower level of education report higher levels of mental illness. (Aneshensel et al. 1991; Dohrenwend et al. 1992; Miech et al. 1999; Mirowsky & Ross 1989; Ross & Mirowsky 1989; Tausig et al. 1999; Turner et al. 1995). Our findings show that such conclusions need to be differentiated. By studying these three socioeconomic resources simultaneously and controlling for other socioeconomic resources and personal resources as acute negative life events, childhood adversity, psychiatric history of the respondents and their family, personality characteristics and age, we have shown that there is no direct impact of level of education on one's mental health. The socioeconomic resources that are acquired latter on in life, that is social class and income, seem far more decisive for the individual's present state of mind. Furthermore, by treating social class as a categorical variable we have been able to make differentiating comments on different types of socioeconomic status.

In addition to the impact of current individual socioeconomic resources on mental health we examined the impact of partner and parental socioeconomic resources. We generated new hypotheses on the role of the partner and parents for one's mental health. Within sociology the impact of the partner and parents have been convincingly shown relevant for many aspects of the individual's life, yet they have been fairly overlooked within the study of mental illness.

So, our second research question dealt with the impact of partner resources in addition to individual socioeconomic resources. The partner's social class and educational level did not show a direct effect on an individual's mental health, after controlling for own socioeconomic and personal resources. Results reported by Monden (2003) on the impact of the partner's educational level for one's health were not reproduced. One's mental health benefits more from just having a partner than having a partner with higher social class or higher level of education. A possible explanation for these results may be found in social class and educational homogeneity between partners. The individuals' social class matters

for one's mental health and because people tend to marry within the same social class (Hendrickx, Uunk & Smits 1995), the additional effect of the socioeconomic resources of the partner may be relatively small. The socioeconomic resources of the partner did affect the individual's perceptions of control over one's own life, and one's financial situation.

Our third research question focussed on the impact of parental resources during childhood. Growing up in socioeconomic disadvantaged families did not directly affect adult mental health, but indirectly family living conditions during one's childhood did matter for one's mental health. People who grew up in socioeconomic disadvantaged families feel less control over their lives, but more importantly they obtain less socioeconomic resources. People who grow up in socioeconomic disadvantaged family attain lower levels of education and in turn lower levels of social class, which may induce adult mental illness. Our results showed no evidence of indirect selection into lower social class or educational level because of a possible prior history of mental illness of the respondent or his family. It seems that the effect of social class on one's mental health is overestimated when socioeconomic childhood living conditions are not accounted for.

Next, we examined the effect of (relative) changes in socioeconomic resources on people's mental illness. Our findings did not support the proposition that people with decreasing socioeconomic resources suffer more from mental illness. No significant differences in mental health were found between people who experienced downward intra- or intergenerational mobility during the life course and people who experienced upward intra- or intergenerational mobility over time. Possibly, a decrease in socioeconomic resources may be compensated by other (socioeconomic) resources, or maybe people who face a decrease of socioeconomic resources through time cope with these 'setbacks' by attaching less value to their social class and/or upward social mobility. Surprisingly, people who experienced no intragenerational mobility showed better mental health than people who experienced upward intragenerational mobility, after personal resources and intermediating perceptions were taken into account. So, just as with income, in some cases, people with higher or increasing socioeconomic resources report higher levels of mental illness. Statements on the impact of *recently* decreasing socioeconomic resources on an individual's mental health could not be tested firmly due to very small numbers of recently unemployed or incapacitated people in our sample. So far, our findings fail to show such an impact. Further research should bring on more solid conclusions.

Our fifth research question focussed on lower socioeconomic resources at the contextual level. Unfortunately, our data proved inadequate to test the effect of contextual (socioeconomic) resources on mental illness at the neighbourhood-level. It certainly will be worthwhile to further investigate this possibility. This however implicates additional criteria to the sample design when studying the general population. In order to do so properly one needs a substantial number of observations within each higher-level unit. A random two-stage stratified random sample in which individuals are nested within neighbourhoods may not be effective enough to test contextual and individual hypotheses simultaneously as shown in our case (Jones 1993). In order to obtain reliable estimates on within-neighbourhoods variation and between-neighbourhood variation for a representative sample of the general population a large number of both higher and lower level-units are necessary. So far, the few studies that have studied the neighbourhood context have reported

significant impact on people's mental health (Aneshensel & Sucoff 1996; Ross 2000; Meertens 2004). We did rule out the potential impact of other contextual levels on mental illness, that is the level of the municipality and district-level. There seems no variation in mental health between individuals within the same municipalities or districts compared with individuals in different municipalities or districts. The potential impact of social contexts needs to be looked for at lower levels, where there is interaction with the person living in it.

The last question we have tried to answer was whether the relationships between lower or decreasing levels of socioeconomic resources and mental illness could be explained by the perception of lower or decreasing resources, that is perception of socioeconomic insecurity, relative financial deprivation and sense of mastery. Feelings of mastery and the perception of socioeconomic insecurity were found to contribute to mental illness. Feeling financially relatively deprived was not associated with mental illness and therefore can not explain the impact of socioeconomic resources on mental illness. The impact of socioeconomic resources on mental illness can partially be explained by feelings of mastery and the perception on one's socioeconomic situation. People with lower socioeconomic resources suffer more from mental illness in part because they feel less in control over their own lives and because they perceive their socioeconomic situation as more insecure. When we look at which of the socioeconomic and personal resources are most decisive for one's mental health it seems that being an emotional stable personality is far best to protect against mental illness, followed by the sense of having control over one's life. Of the socioeconomic resources, higher social class seemed best to protect from mental illness.

3 Social resources and mental illness

3.1 Introduction

In this chapter we will study the impact of *social* resources on mental illness. We aim to increase the understanding of the social circumstances and intermediating processes through which (a lack of) social resources may affect one's mental health.

Individuals' social resources are related to the degree of social integration and the availability and quality of social relationships. The importance of social relationships in the lives of human beings has been a focal point in many scientific disciplines, and has been shown to be a crucial contributor to personality, social development and personal functioning throughout the life course. In a classical and very influential study on suicide, Durkheim (1897/1951) pointed out the importance of social integration and ties to family, community and church. Durkheim found that suicide was most prevalent among those with weak ties to the three groups. More recently, Tubergen and colleagues (2001) reported similar findings on people with weak ties to a religious community. However, family, community and church have been under the influence of macro-level processes as individualisation and secularisation since Durkheims' study has been published. These processes seem to undermine the importance of traditional bonds, which could indicate a loss of social resources. The number of divorces and single household families has increased in the Netherlands over the last decades (Fischer 2004, SCP 1998), and also the number of people that participate in traditional institutions including church is decreasing (SCP 1994; Te Grotenhuis 1999). In this context, theoretical statements have been made about the 'loss of community', that is decreasing social cohesion and eroding social capital (Felling, Peters & Scheepers 2000). Putnam (2000) showed that social capital has been decreasing in America since the 1960s. US citizens have become, besides less involved in formal institutions, also less connected to family, friends and neighbours. Although in comparison with other European countries the level of informal social contacts is rather low in the Netherlands (Scheepers, Te Grotenhuis & Gelissen 2002), empirical evidence for a decline of informal social contacts so far is lacking (Scheepers & Janssen 2001).

The developments described here have had a profound impact on family and community, thereby affecting the availability of social resources to individuals. In this chapter we will study to what extent people with less social resources are at risk to experience mental illness. We will examine to what extent lower or decreasing levels of social resources is related to mental illness, taking into account one's level of personal resources. Furthermore, we will also examine to what extent the relationship between objective social circumstances and mental illness is mediated by subjective perceptions of the individual of their level of resources. In short, we set out to find answers to the following research questions: First, to what extent is there a relationship between lower individual social resources and mental illness? Second, to what extent is there a relationship between decreasing individual social resources and mental illness? And third, to what extent can the relationship between objective lower or decreasing social resources and mental illness be explained by perceptions of lower social resources? Unfortunately, we will not be able to study the impact of partner or parental social resources on people's mental health since our data does not contain any information on the level of social resources of the partner and the family a person grew up in. Our focus in this chapter will be on current individual social resources and recent decreasing social resources and their impact on mental health.

3.2 Theory and hypotheses

In Chapter 1 we stated that it follows from SPF-theory that an individual's level of resources determines one's ability to reach psychological well-being. If a person lacks the necessary resources, faces decreasing levels of resources or losses that are so severe that they surpass the ability to substitute, they may push the individual to a lower level of psychological well-being. A lower or decreasing level of social resources therefore may induce mental illness.

The level of social resources people have access to depends on their integration into the social environment. In general, we propose that people with higher levels of social integration and more social relationships are presumed to have more social resources. They have better access to support, affection, advice, information, instrumental help, trust, companionship, security, and affirmation, which in turn may provide psychological well-being and protects from mental illness. The linkages to social environment can be represented at three distinct levels, that is: (1) intimate confiding relationships, (2) social networks, and (3) community or neighbourhood (Vaux 1988). Although the relative importance of these levels of social ties to mental health is a matter of some dispute, we propose in general that they may provide the individual with social resources which may protect from mental illness. Now, each of these levels will be discussed.

3.2.1 An intimate confiding relationship and mental illness

At the lowest level, an intimate and confiding relationship has been shown to be beneficial to one's mental health: married persons are less distressed than unmarried people (Horwitz

& Scheid 1999; Leavy 1983; Mirowsky & Ross 1989; Tausig, Michello & Subedi 1999; Thoits 1995; Umberson & Williams 1999; Vaux 1988). Although the effects of marriage vary in degree, depending on the group against which married people are compared, married people show better mental health. Non-married people show higher levels of depression, anxiety, psychological distress and even higher rates of mortality (Ross, Mirowsky & Goldsteen 1990). Having a confidant significantly reduces the effects of stress experiences on both physical and psychological outcomes (Cohen & Wills 1985)[7]. So, a close and confiding relationship seems to protect people from mental illness. Lacking such a relationship may therefore be considered a potential stressor. Also, Brown and Harris (1978) found that women who lack a confiding relationship with a husband or boyfriend were more likely to develop depression in the presence of life stress or major difficulties than women who did have such a relationship. So, having a relationship not only has a direct and positive effect on mental health, it may also act as a buffer in the presence of stress. In a review of studies on social support Cohen and Wills (1985) found empirical evidence for both models. In accordance with our general proposition we state that unmarried people (*hypothesis 1a*), divorced people (*hypothesis 1b*), and widowed people (*hypothesis 1c*) suffer more from mental illness than married people. If having a close and confiding relationship protects against experiencing mental illness, it follows that loosing or ending such a relationship means a decrease or loss of social resources and therefore may increase the risk of mental illness. People who *recently* got divorced or ended a long lasting relationship therefore suffer more from mental illness than people who stayed in such a relationship (*hypothesis 1d)*. In time, people who got divorced or have ended a long lasting relationship may however, be able to compensate for the loss of social resources.

Researchers have argued that it is not just the presence of a partner, but the notion that a good marriage or relationship implies direct access to social support. A good marriage provides a sense of security and belonging, which helps people to cope in the presence of distress and protects them from mental illness (Mirowsky & Ross 1989; Ross et al. 1990; Tausig et al. 1999). Turner and Marino (1994) found higher levels of social support among married people then among unmarried people, showing that the variation of mental illness among different marital states can be partially (for 50 percent) explained by differences in social support. Also, being in a bad marriage or relationship may act as a potential stressor. Gove and colleagues (1983) showed that the emotional benefits of marriage depend on the quality of the relationship. They found that married people who said they were reasonably happy with their marriage are no less distressed than the unmarried, but the married people who said they were not too happy or not happy at all with their marriage turned out more distressed than the unmarried. So, it is better to live alone than to stay in a bad relationship.

[7] An alternative explanation has been suggested for the established relationship between marital status and mental illness: being mentally ill keeps people from having and staying in a confiding relationship. People's mental (and physical) health selects them into certain position in society. This is also known as the social selection hypothesis. Although both causation and social selection may be evident, empirical evidence has shown that social causation processes seem more important than social selection processes in the relationship between marital status and mental disorder (Gove 1972). For a more detailed discussion on the social selection versus social causation issue see Chapter 1.

In addition, we state that unmarried people with high levels of social support should have comparable, lower levels of mental illness as married people, compared to unmarried people with lower levels of social support (*hypothesis 1e*). Also, married people who are dissatisfied with the relationship with their partner should report comparable, higher levels of mental illness than unmarried people. The latter hypothesis however can not be tested with our data.

Finally, in the literature on social support it has been suggested that although marriage in general has health-promoting effects, these effects seem to differ by gender (Ross et al. 1990; Avison 1999; Tausig et al. 1999; Umberson & Williams 1999). Married men seem to gain more from marriage than married women. Married women are more likely to be depressed, unhappy with themselves or their marriage compared to men (Tausig et al. 1999). Additionally, we hypothesize that married women suffer more from mental illness than married men (*hypothesis 1f*).

3.2.2 Social networks and mental illness

The second, somewhat less intimate social resources we will discuss are social networks. Social networks have been given a great deal of attention in the study of mental illness. In general it is believed that large networks provide more social support, next to appraisal, more information and specific expertise. So, large networks are more likely to meet the diverse needs of individuals (Vaux, 1988). However, empirical evidence on this matter seems inconclusive (for a review see Lin & Peek 1999). A great source of variety in social network studies can be traced back to whether one focuses on objective features like network size, density, degree of reciprocity and frequency of contact or on subjective features of social networks that is the individuals' perception of the quality of social relationships. Findings show that overall, objective or structural features of social networks are modestly associated with mental health (Cohen & Wills 1985; Leavy 1983; Kessler & McLeod 1985; Lin & Peek 1999). This moderate association has lead some researchers to conclude that a more direct criterion is necessary to assess the role and significance of network characteristics; that is perceived or appraised social support. They argued that "merely counting people and computing ratios concerning density and other structural variables does not touch the depth of the concept support" (Leavy 1983, p. 5). A bulk of evidence shows that the connection between perceived social support and mental illness is highly robust, despite great diversity in conceptualisations and measurements of both variables (Turner 1999).

De Ridder (1990) has pointed out the need to recognise that social support is far from a homogeneous concept. The potential impact of social support runs through many different ways, according to the situation, the type of support and the people involved. Objective characteristics of social networks do matter for an individual's mental health, but not necessarily in the presence of stress. Objective and subjective characteristics of social networks simply assess different aspects of social support. So, in order to make progress in this field of study it is necessary to focus on *both* structural and subjective features of social

networks and support. Furthermore, De Ridder (1990) states that one needs to differentiate between different types of support and categories of relations among network members.

Considering the literature on social network and social support we must conclude that it is characterised by great diversity of conceptualisations and measurements, consequently leading to differing and often conflicting results. Despite these differences, social networks and support have been convincingly shown to be beneficial to one's mental health. However, much remains to be learned about why social support matters and especially how and under what conditions it matters for mental health. It seems that both objective and subjective characteristics of social networks and social support must be included to capture completely the impact of networks and support on mental health. In accordance with the De Ridder's recommendations we shall include both objective and subjective aspects of social networks, and differentiate between different types of support (emotional and instrumental) and categories of relations among network members (see De Ridder 1990). By doing so we are able to learn more about the social conditions under which social resources matter for mental illness. We hypothesize that people with smaller supportive networks suffer more from mental illness (*hypothesis 2a*). Also, people who have received little or no instrumental help (*hypothesis 2b*) or little or no emotional help (*hypothesis 2c*) suffer more from mental illness. Since received emotional help seems more beneficial to one's mental health than instrumental help - especially in times of distress-, we state that a lack or lower level of emotional help will have a stronger negative impact on one's mental health than a lack or lower level of instrumental help (*hypothesis 2d*). We shall explore whether it matters by whom (partner, family, friend, neighbour, colleague or professional) the type of support is provided in order to benefit to one's mental health.

3.2.3 Community social resources and mental illness

Social resources at the level of community or neighbourhood have been studied less frequently then resources at other levels. This especially holds for the neighbourhood-level, which has only been recently paid the attention it deserves (Ross 2000). Although studies (Meertens 2004; Ross 2000; Silver 2001; Silver et al. 2002; Verdonk 1979) have supported the claim that the neighbourhood context seems relevant for one's mental health, our data proved unsuited to test hypotheses on the impact of (social) contextual resources on the individual's mental health (see Chapter 2). Therefore, the neighbourhood context will further be left out of consideration.

With regard to integration in the community we have stated that people who are more strongly integrated will have more social resources. In accordance with this proposition we state that people who show less social participation within society, that is who do not belong to any type of intermediate organisation such as a union, a political party, or sporting club will suffer more from mental illness (*hypothesis 3*). Social integration into a religious community will not be included here. This subject will be given special attention in the next chapter (Chapter 4).

3.2.4 Explanations for the relationship between social resources and mental illness

The aim of this study is to provide more understanding on the social conditions that may produce a risk in developing mental illness, and the intermediating process through which these objective social conditions affect mental health. Aneshensel (1992) argued that stress is not an inherent attribute of external conditions, but emerges from discrepancies between those conditions and the individual's needs and values. This means that low social resources will induce mental illness if the person perceives the available amount of social resources to be insufficient to fulfil postulated goals that is a good mental health. So, the subjective cognitive appraisal of a certain situation plays a pivotal role in explaining why some people, the ones with lower or decreasing resources, get mentally ill and others do not.

Above we formulated hypotheses on categories of people with lower or decreasing social resources which may show higher risk to suffer from mental illness. Additionally, we state in general that people with lower or decreasing social resources will experience mental illness due to the perception of lower social support (*hypothesis 4*). So, people who are unmarried, divorced or widowed or people who recently got divorced or ended a long lasting relationship, people with smaller social networks, who receive little or no instrumental or emotional support and people who are less social integrated in community suffer more from mental illness, because they feel less socially supported.

Also, we hypothesize that people with lower or decreasing social resources suffer more from mental illness due to the perception of lower mastery (*hypothesis 5*). The perception of mastery is shaped by the objective social conditions people live in and therefore may act as a mediator between lower social resources and mental illness. People with inadequate resources to achieve postulated goals, that is good mental health, may feel that they have less control over their own life. Empirical findings have supported these theoretical notions (Mirowsky & Ross 1989; Pearlin, Lieberman, Menaghan & Mullan 1981; Ross & Mirowsky 1989; Ross & Sastry 1999) So, people who are unmarried, divorced or widowed, or who recently got divorced or ended a long lasting relationship, people with smaller social networks, who receive little or no instrumental or emotional support and people who are less social integrated in community suffer more from mental illness, because they feel less control over their own lives.

3.3 Data and measurement instruments

To test the formulated hypotheses we use a large-scale cross-sectional data set that has been newly collected as part of the national Dutch survey 'Social and Cultural Developments in the Netherlands 2000 (SOCON)' (Eisinga et al. 2002). This large-scale data set is representative for the general Dutch population and contains information from 1008 respondents. Data was collected through a two-way stratified random selected sample. For a more detailed description of this data set see Chapter 2.

Mental illness

In this study *mental illness* is measured by the short Mental Health Inventory (MHI-5), which consists of five items in which people are asked if they experienced certain feelings (e.g. anxiety and depression) during the last four weeks. The five items make a valid and reliable measurement instrument (Cronbach's alpha =.77). A more extensive description of the MHI-5, as well as the results of the factor analysis can be found in Chapter 2, §2.3. A scale was constructed based on these five items, ranging from 0 to 100, with high scores indicating better mental health. Lower scores indicate less good mental health, i.e., mental illness.

Social resources at the individual level

Marital status is measured by a direct question about the marital status of the respondents. Four answer categories were presented: not married and never been married, married, divorced and widow(-er). A majority of the respondents (58.8 percent) stated being married. Previously, respondents were asked if they had a partner with whom they did not live together. This indicates whether unmarried people are involved in any long lasting relationship. From the people who were classified as being formally unmarried (not married and never been married, divorced or widowed N=414), 58.2 percent stated to be involved in a steady relationship. Based on both marital status and whether or not the respondent has a partner with whom he or she is not living together, a typology is constructed comprising six categories: (1) not married and never been married and no partner, (2) not married and never been married but with steady partner, (3) married, (4) divorced and no partner, (5) divorced but with steady partner, (6) and widowed. For the widowed, no distinction was made between people with and without a partner since this would give a small number of respondents in both categories. The variable *gender* is coded 0 for men and 1 for women. Men and women were almost equally represented in the sample, 49.8 percent men and 50.2 percent women.

The *degree of instrumental support* respondents have received is assessed by asking them who gave help in the last six months with either (1) practical chores or doing groceries, (2) taking care of the children or personal care, and (3) lending something (money, tools) or filling in forms (see Felling, Fiselier & Van de Poel 1991). Respondents were handed a list of persons they had to choose from (partner, a member of the family (in law), a friend, a neighbour, a colleague, and a professional). If respondents mentioned one or more persons from the list, they were asked how much time this person spent on giving instrumental help the last time. Although the help respondents have received the last time may not be all representative of the total amount of help respondents have received, this approach produces the most reliable answers (Felling et al. 1991). The level of instrumental help was measured in three questions to determine more precisely the amount of instrumental help respondents have received. Next, the degree of received instrumental help was constructed in two steps. First, the number of minutes spent by all the persons that have provided help was summed for each of the three distinguished types of instrumental support. Second, the mean number of minutes over the three types of instrumental help was calculated. From the 969 respondents that answered the questions on instrumental help, 10.1 percent stated not to have received any instrumental help and 55.2 percent

reported to have received two hours or less of instrumental help in the last six months.

The *degree of emotional support* respondents have received in the last six months is measured in one single question who they have received advice from or talked to during, for instance, major changes in his life, relational problems or when the respondent felt down. Again, respondents were handed a list of persons, and if one of more persons were mentioned from the list, the amount of time spent by that person the last time was determined. The degree of emotional help was determined by summing the number of minutes spent by each of the mentioned caregivers. The majority of respondents, 54.4 percent stated not to have received any emotional help in the last six months.

The *supportive social network size* is established by asking from how many different people the respondents have received any kind of help over the last six months. To generate as precisely as possible the number of network members, the question was asked right after the respondent had answered the questions about the different types of instrumental and emotional help. Of the 917 respondents who answered the question, 68.0 percent reported to have received any kind of help from five persons or less, 1.0 percent of them reported no one.

To test whether it matters who has given help to the respondent, two typologies, one for instrumental help and one for emotional help, were constructed based on the first *type of 'caregiver'* the respondent mentioned on the question whom he had received some type of (instrumental or emotional) help from in the last six months. A (large) majority of people mentioned none or only one person, although the respondent was allowed to mention more than one person on the questions regarding helping behaviour. For received instrumental help, 52 percent of the respondents mentioned only one person or none, whereas for received emotional help even 82 percent of the respondents stated to have received emotional help from nobody or only one person. Preliminary analyses showed that including the variables in the analyses together with the variables degree of instrumental and emotional support caused serious collinearity. Inspection of the univariate distributions of the two variables 'type of caregiver' showed little variation in scores. For emotional support, nearly half of the respondents have claimed not to have received any help from other people. Of the people who did state to have received instrumental or emotional help, a large majority were helped by the partner or family, followed by friends. Since the variables 'type of caregivers' are seriously skewed and show no discriminatory power, we decided to exclude the variables from our analysis.

The degree of *social participation* is measured by asking the respondent if he or she is a member of any kind of associations, and if so how much time he/she spent per week on all these activities together. The number of associations the respondent is a member of forms an indication of the quantity of possible social resources the respondent has access to. The time spent on the membership of associations by the respondent says something about the quality of the social resource. Based on both questions a typology was constructed with categories: (0) no participation, (1) member of one association, spending two hours or less, (2) member of one association, spending three hours or more, (3) member of two or more associations, spending two hours or less, (4) member of two or more associations, spending three hours or more. Of the 1005 respondents who answered

the question 36.1 percent reported no social participation at all. An overview of the description of all social resources can be seen in Appendix B.1.

Recent decrease of social resources
A decrease of social resources is measured by the recent ending a long lasting relationship. People who stated to be divorced on the question about marital status were asked in addition in which year they got divorced. People who stated to be married or widowed were asked in addition if they had ever got divorced, and if so in when. The unmarried were asked if they ever had experienced a long lasting relationship to be ended, and if so in which year the relationship ended. A long lasting relationship was defined as living together with someone longer than one year. Information on people who got divorced and who had ended a long lasting relationship was combined into a dummy variable with score one indicating to have ended a lasting relationship in the last five years.

Control variables: personal resources
There are some studies that report that personal resources, such as personal characteristics and low self-esteem may affect the perception of social support (e.g., Ross & Mirowsky 1989; Vaux 1988). We will take the potential impact of personal resources into account when studying the effect of social resources on mental illness. We thereby will make a distinction between (1) personal resources that may increase the risk of experiencing mental illness, that is acute negative life events, childhood adversity, psychiatric history of the respondent and his/her family, chronic physical disability, and (2) personal resources that may decrease the risk of experiencing mental illness, that is personality characteristics and age. All of the variables we will control for have already been described in detail in the previous chapter, Section 2.3.

Perceptions on social resources
The perception of *social support* is measured by a selection of items derived from the Social Support Questionnaire (Sarason, Levine, Basham & Sarason 1983). Respondents were given four statements about social support and asked to what extent these statements held for them. The four items make a valid and reliable measurement instrument (Cronbach's alpha=.87). Factor analysis showed that the four items refer to one dimension with factor loadings ranging between .72 and .86. Although this scale measures the perception of being supported in general, the scale contains one item that can be referred to as instrumental help and one item that can be referred to as emotional help. Sum scores were computed for the four items. A *sense of mastery* is measured by seven items in which the respondent is asked to what extent he or she feels to have control over one's life. The scale is derived from a paper by Pearlin and Schooler (1978) and translated by us into Dutch. Factor analysis showed that two (positive) items had low communalities (lower than .20). These items (V3212 en V3213) were removed from our analyses. The remaining items showed factor loadings between .46 and .72. Then, sum scores were constructed over the five items (Cronbach's alpha =.75). The perception of *attachment to the neighbourhood* is measured by a scale that consists of three items about connections of the respondents towards the neighbourhood. The items referred to one dimension and the results of the reliability

analyses were satisfying (Cronbach's alpha = .76). Sum scores were constructed for the three items. A more detailed description and the results of the factor analyses described in this section can be found in Appendix B.2.

3.4 Method

To test the hypotheses formulated in Section 3.2 we applied multiple regression analyses. The effect of different types of resources will be tested in several steps. Since we want to draw conclusions about potential differences between categories of respondents categorical variables as marital status and the psychiatric history of the respondent and its family have been dummified according to the procedure described by Hardy (1993). To test hypotheses about differentiating effects of marital status (hypotheses 1e and 1f) we constructed interaction terms.

The variables acute negative life events and childhood adversity had substantial numbers of missing scores. By computing a dummy for the respondents that had missing scores on each of these two variables we were able to test whether data was missing randomly as to their mental health. In both cases these respondents did not have significantly different mental health scores. In order to enlarge the number of respondents both variables were recoded: score zero indicating having encountered no acute negative life events or childhood adversity or having a system missing on (one of) these variables.

In addition to the relevance of social and personal resources for people's mental health, we want to conclude on the decisiveness of different determinants. To do so one needs to examine standardized regression-coefficients. In order to be able to say something about the relative weight of the categorical variables for people's mental health we constructed new composite variables, so-called compound variables for the dummy variables. The compound variable is computed as the weighted sum of the previously estimated unstandardized regression coefficients (Eisinga, Scheepers & Van Snippenburg 1991). Then, we estimated the model again, now with these compound variables. The direction of the parameters of these standardized compound variables cannot be interpreted meaningfully, since it is positive by definition as a consequence of the procedure. Results are discussed at the end of this chapter.

3.5 Results

In Table 3.1 the unstandardized regression coefficients for seven models are presented. In each of these models additional variables will be included to establish the impact of these variables, over and above the individual's current social resources. In the first model only marital status and gender are related to mental health, whereas in model II the rest of the social resources are taken into account. Model III considers the impact of recently decreasing social resources on people's mental health. In model IV and model V the impact of social resources and recently decreasing resources on mental health is controlled for by personality characteristics and other personal resources that may affect an individual's

Table 3.1 *Empirical model I to VII: unstandardized regression coefficients of (decreasing) social and personal resources on mental health (Nmin=752); Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)*

Model	Model I	Model II	Model III	Model IV
Constant	78.37	78.44	78.45	79.33
Social resources				
Marital status (married = ref)				
unmarried, no partner	**-8.50****	**-6.93****	**-6.35****	**-5.19****
unmarried, partner	**-2.64***	-1.59	-1.13	-1.69
divorced, no partner	**-5.45***	**-3.92~**	-1.68	.69
divorced, partner	-3.77	-2.38	-.21	.98
widowed	**-5.67***	**-7.30****	**-7.20****	**-7.94****
Gender (male = ref)				
female	**-4.04****	**-4.33****	**-4.40****	**-3.50****
Instrumental support		.00	.00	.00
Emotional support		**-.02****	**-.02****	**-.01****
Size of supportive social network		-.05	-.04	-.02
Social participation		**.51~**	**.49~**	**.54***
Recent decrease in social resources				
Recently ended relationship /got divorced			**-4.10***	-2.72
Personal resources (1)				
Acute negative life events (no negative life events				.33
Childhood adversity (no childhood adversity = ref)				**-2.39***
Psychiatric history respondent (never treated = ref)				
treated one time, first time age 6-29				**-9.93****
treated one time, first time age 30-66				**-6.58****
treated two times or more, first time age 6-29				**-12.91****
treated two times or more, first time age 30-66				**-14.87****
Psychiatric history family (no psychiatric treatment = ref)				
only parent(s) or siblings psychiatric treatment				-.96
both parent (s) and siblings psychiatric treatment				.63
Chronic physical disability (no physical disability = ref)				-.49
Personal resources (2)				
Extraversion				
Conscientiousness				
Agreeableness				
Emotional stability				
Resourcefulness				
Age				
Intermediating variables				
Perception of social support				
Sense of mastery				
Perception of attachment to neighbourhood				
Interaction-terms				
Marital status x gender				
Marital status x emotional support				
Adjusted R^2	.06	.09	.10	.17

Table 3.1*…Continued*

Model	Model V	Model VI	Model VII
Constant	76.09	41.04	35.08
Social resources			
Marital status (married = ref)			**# 2.48***
unmarried, no partner	**-3.07***	**-3.85****	
unmarried, partner	-.95	-1.46	
divorced, no partner	3.29	**4.60***	
divorced, partner	1.88	1.35	
widowed	**-7.07****	**-6.12****	
Gender (male = ref)			-.12
female	**-1.91***	**-1.75***	
Instrumental support	.00	-.00	.00
Emotional support	**-.01****	**-.01***	**-.01***
Size of supportive social network	-.04	-.06	-.04
Social participation	.24	.16	.06
Recent decrease in social resources			
Recently ended relationship /got divorced	**-4.19****	**-3.50***	-1.18
Personal resources (1)			
Acute negative life events (no negative life events = ref)	-1.00	-.73	.20
Childhood adversity (no childhood adversity = ref)	**-1.75***	-1.31	-1.04
Psychiatric history respondent (never treated = ref)			
treated one time, age 6-29	**-5.36***	**-4.90***	**-5.97****
treated one time, age 30-66	**-4.46***	**-5.29****	**-3.93****
treated two times or more, age 6-29	**-7.55****	**-6.54****	**-7.09****
treated two times or more, age 30-66	**-12.81****	**-11.85****	**-12.47****
Psychiatric history family (no psychiatric treatment = ref)			
parent(s) or siblings psychiatric treatment	-.18	.28	-.37
both parent (s) and siblings psychiatric treatment	-.13	-.22	-.99
Chronic physical disability (no physical disability = ref)	-.34	.30	.09
Personal resources (2)			
Extraversion	.38	-.53	-.51
Conscientiousness	.23	.15	.09
Agreeableness	**1.11***	**.76~**	**.73~**
Emotional stability	**6.61****	**5.17****	**5.08****
Resourcefulness	.60	.22	.09
Age	**.07~**	**.07~**	**.09****
Intermediating variables			
Perception of social support		**.38***	**.45****
Sense of mastery		**1.45****	**1.51****
Perception of attachment to neighbourhood		.16	.11
Interaction-terms			
Marital status x gender			-1.18
Marital status x emotional support			.00
Adjusted R^2	.39	.47	.46

marital status recoded into two categories: 0 unmarried (ref.), 1 married

mental health. Finally, in model VI three intermediating variables are presented to examine to what extent relationships between (objective) social resources and mental illness is interpreted by subjective perceptions. Interaction-terms are tested in model VII.

In model I it can be seen that unmarried people, widowed and divorced people with no partner, suffer more from mental illness than married people, the reference category. Based on this first model *hypothesis 1a* and *1c* cannot be rejected. Divorced people who got involved again in a long lasting relationship show equally good mental health than married people. *Hypothesis 1b* therefore in part needs to be rejected. Having a partner seems to outweigh the negative consequences of divorce for one's mental health. Similar statement can be made for the unmarried wit a partner. When controlling for the degree of instrumental and emotional support, the size of one's supportive network and social participation in society (model II), unmarried people with a partner at the moment also no longer seem to suffer more from mental illness than married people. In both cases, being involved again into a lasting relationship outweighs the negative effects of being non-married. Apparently, formal marital status does not tell the whole story. It seems important to distinguish in addition to formal marital status whether or not someone is involved in a confiding relationship in order to understand who is at risk to experience mental illness. By getting involved into a lasting relationship people have gained social resources which is beneficial for their mental health. *Hypothesis 1a* needs to be rephrased in order to be tenable: only unmarried people who are not involved into a lasting relationship suffer more from mental illness. Unmarried people with a lasting relationship are in equally good mental health as married people because of the degree of received emotional support and their social participation in society.

As stated above divorced people *without* a partner suffer more from mental illness. However, when controlling for a recent loss of social resources, the parameters turns non-significant (model III). This means that only people who recently, in the last five years, got divorced or ended a long lasting relationship suffer more from mental illness. As personal resources and perceptions of support, mastery and neighbourhood attachment are accounted for, the parameter even turns positive and becomes significant again. This indicates that people who recently got divorced and who do not have a partner at the moment report even significant better mental health than married people. In the long run it seems healthier to end certain relationships, than to stay married into them. People seem able to compensate for a recent loss of social resources by substituting them with other (social) resources so the negative effect for one's mental health are cancelled out. Based on these last results *hypothesis 1b* needs to be rejected: divorced people do not suffer more from mental illness compared to married people. At best, they are in better mental health.

As for gender, model I shows that women suffer more from mental illness than men. These results suggest that women tend to be more vulnerable to mental illness than men, maybe responding differently to stressors. The negative parameter for women does decrease when personal resources and perceptions of distress are accounted for, but stays significant.

Model II considers the impact of structural features of social support and social participation in society. As can be seen, the degree of instrumental help and the size of one's supportive network both show no significant effect on one's mental health. So,

hypotheses 2a and *2b* both need to be rejected. Bivariate analyses also indicated a small, non-significant association between these two structural features of social support and mental health. These findings are in accordance with other studies which have also reported non-significant relationships between structural network composition variables and mental health (see Lin & Peek 1999). It is conceivable that baby sitting children or doing groceries may lift some temporary burden, but this kind of help shows no substantial impact on people's mental state of mind. Also, the potential number of people a person may turn to for help does not matter for one's mental health. Feeling supported seems to be more important, as our results on the perception of social support further on indicates (model VII).

Whereas the degree of instrumental help does not affect people's mental health, the degree of emotional help does matter. Surprisingly though, the effect of such support is negative, indicating that people who receive a lot of emotional support suffer more from mental illness than people who receive less emotional support. *Hypothesis 2c* therefore needs to be rejected. Ross and Mirowsky (1989) have reported similar results. They found that people who talk to others about their problems showed higher levels of depression. Comparing the strength of the effect of instrumental help and emotional help on mental illness has become redundant, since instrumental help has no direct impact on mental health. *Hypothesis 2d* needs to be rejected.

Last shown in model II, people who show a stronger participation in society have better mental health and so suffer less from mental illness[8]. Bivariate analyses also indicated a moderate, yet significant association with mental health. However, when including personality characteristics and age into the model the effect decreases and turns non-significant. This indicates that the relationship between social participation in society and mental health is brought upon by people's higher self-esteem, emotional stability and age. Older people or people with higher self-esteem or emotional stable personalities have better mental health and also participate more actively into society. *Hypothesis 3* needs to be rejected.

Model III considers the impact of decreasing social resources. Having ended a lasting relationship in the last five years negatively affects one's mental health. People who recently got divorced or who ended a lasting relationship in the last five years suffer more from mental illness. So, *hypothesis 1d* cannot be rejected.

Personal resources

In model IV, personal resources that may increase the likelihood to suffer from mental illness are included in the model. The variance in mental health-scores explained by the predictors thereby increases from 10 percent to 17 percent.

People who have experienced acute negative life events in the last five years do not suffer more from mental illness compared to people who did not experience such events. Random stressors thereby do not seem to affect one's mental health. Growing up in certain

[8] Treating 'social participation in society' as a categorical variable gave similar results. At first, dummies of social participation showed significant impact on mental health. Especially people who participated strongly into more than one association showed significant better mental health. When personality characteristics and age were included significant effects turned non-significant.

conditions during childhood, however, does affect one's mental health. People who experienced adverse conditions during childhood suffer more from mental illness compared to people who did not experience such conditions during childhood. When perceptions of support and mastery are included into the model, the effect decreases and turns non-significant. This indicates that people who experience adverse conditions during childhood suffer more from mental illness because they feel less socially supported and less in control over one's life.

When we look at the psychiatric history of the respondent it can be seen that people who have been treated one time or more for mental complaints suffer more from mental illness than people who have never been treated for such complaints. People who have been treated more than once show the worst mental health. The respondent's age the first time he or she received treatment for psychological complaints shows no clear pattern, meaning that being treated at a young age does not necessarily induce adult mental illness more often.

Apart from possible genetic effects, having a parent or sibling with a psychiatric disorder also provides clues about environmental effects of growing up in certain families on one's mental health. Such effects, however, are not found here. The psychiatric history of the direct family does not show direct negative consequences for people's adult mental health. The same holds for having a chronic physical disability. People with a chronic physical disability do not suffer more from mental illness.

In model V personality characteristics and age are included in our model. Not all of the five personality characteristics are related to mental health. Personality characteristics as 'conscientiousness' and 'extraversion' do not affect one's mental health. In Chapter 2 on socioeconomic resources 'resourcefulness', that is the extent to which the respondent sees himself as being resourceful or inventive, was found to protect from mental illness. In this chapter on social resources such an effect is not found. Being an inventive person seems a more relevant personality characteristic for one's level of socioeconomic resources than for social resources. Personality characteristics like emotional stability and agreeableness protect people from mental illness. People who describe themselves as emotionally stable and agreeable have better mental health. As for age, our results show that as people get older they suffer less from mental illness (see previous comments on age). This finding is supported by other studies (e.g. Mirowsky & Ross 1989; Tausig et al. 1999).

Intermediating variables

Last, we included subjective perceptions on social resources into our analyses. By including perceptions of social support, mastery and neighbourhood attachment into the model, the variance in mental health increases to 47 percent, which indicates that these variables on their own contribute to the explanation of the variation in mental health (also see Appendix B.3). People who feel more socially supported and in control of their lives show better mental health. So, the perceptions of social support and mastery seem to protect people from mental illness. The perception of neighbourhood attachment does not seem to affect people's mental health, and therefore cannot interpret the relationship between social resources and mental health.

We argued that people with lower objective social resources suffer more from mental illness, due to the perception of lower social support and lower mastery. A great deal of the effects of social resources becomes smaller, indicating that the relationship between these resources and mental illness can be partially explained by the perception on social support and mastery. Yet, since none of the reported relationship between (decreasing) social resources and mental illness can be fully interpreted by these perceptions, *hypotheses 4* and *5* in part need to be rejected. Only the effect of 'agreeableness' seems fully interpreted by perceptions of social support and mastery, meaning that people with higher self-esteem suffer less from mental illness because they feel more socially supported and feel more in control over their own lives.

As for marital status, the effects of different marital status categories on mental illness cannot be explained by perceptions of social support or mastery over one's life, but these perceptions rather seem to suppress the observed relationship. Only the effect for widowed people decreases when perceptions of support and mastery are included into the model. All other significant effects increase by including these perceptions. Similar findings with regard to the interpretation of the effect of marital status on mental illness by feelings of mastery have been reported by Turner, Lloyd and Roszell (1999).

Conditional effects of gender and emotional support on the relationship between marital status and mental illness

Finally, we also formulated hypotheses about the differential effects of marital status on mental illness by degree of emotional support and by gender.

The interaction term of marital status by degree of emotional support shows no significant effect, meaning that the effect of marital status on mental illness does not differ by the degree of received emotional support. The effect of emotional support is the same for both married and unmarried people. *Hypothesis 1e* therefore needs to be rejected. By exploring conditional effects we are able to see that the effect of emotional support is first of all negative, and second, much smaller than the effect of marriage. Unmarried people either with or without a certain degree of emotional support seem more likely to suffer from mental illness than married people.

As for the differential effect of martial status by gender, bivariate analyses showed significant differences between married men and married women. Married women tend to have lower health-scores than married men and therefore suffer more from mental illness. Our bivariate analyses also showed that differences between married men and unmarried men were larger than between married and unmarried women. So, at first sight it seems that married men have better mental health than married women and men tend to gain more by getting married then women. However, the multivariate analyses controlling for various types of social and personal resources (model VII), fail to show such differentiating effects for married men and women. The interaction term marital status by gender is negative, but not significant. *Hypothesis 1f* therefore needs to be rejected.

Relative weight of social resources

Not all variables that were considered to affect mental illness showed significant effects, when controlling for others. But in the end the presented model is able to explain nearly half

of the variance in mental health-scores, which is considered a satisfying result. To answer the question which of the variables that showed direct significant effects on mental illness is the most powerful predictor of mental health or illness, we obtained the standardized regression coefficients (see Appendix B.3). For the dummified categorical variables we computed compound-variables to establish their relative weight as we described earlier.

Just as in Chapter 2 on socioeconomic resources being an emotional stable personality seems best to protect against mental illness, followed by the sense of having control over one's own life. Also, the psychiatric history of the respondent is an important factor in trying to explain who is at risk of mental illness. Of the social resources, marital status seems most important. Being a women, receiving emotional support and ending a relationship seem equally important; these resources can be labelled risk-factors to good mental health.

3.6 Conclusions and discussion

In this chapter we studied the impact of social resources on mental illness. We examined whether lower or decreasing social resources at the individual level induces mental illness. Our results showed that people with lower social resources suffer more from mental illness. Unmarried people without a partner and widowed people suffered more from mental illness. On the other hand, unmarried people and divorced people who formally are single but who were involved in a lasting relationship showed equally good mental health than married people. Being involved in a lasting relationship indicates a gain of social resources, which seems to outweigh the negative consequences of being non-married. Therefore, in order to better understand who is at risk of experiencing mental illness one needs to focus on whether or not one is involved in a confiding relationship in addition to people's formal marital status.

As for divorced people who were *not* involved in a long lasting relationship, they only reported higher levels of mental illness when recently faced with ending such a relationship. When personal resources and subjective perceptions were accounted for they showed even significant better mental health than married people. So in the short term, ending a lasting relationship induces mental illness, but in the long run it is better for one's mental health to end certain relationships than to stay married into them. Over time people seem able to compensate for a loss of social resources.

Women either married or not, also suffer more from mental illness than men do. We were unable to explain the relationship between gender and mental illness, even when controlling for other social and personal resources. Marriage seems equally beneficial to the mental health of both men and women. Our findings did not support the claim that men seem to gain more by getting married as other studies have reported (Avison 1999; Tausig et al. 1999; Umberson & Williams 1999). Some researchers (e.g., Nazroo, Edwards & Brown 1998; Simon 1995) have argued that the different rates of reported mental illness between men and women may have to do with (the combination of) different social roles that men and women have. We will focus on the impact of combining social roles for one's mental health in Chapter 5.

In addition to objective characteristics as marital status and gender we focussed on people's social support and social participation into society. As for the objective amount of social support that people received, we distinguished between instrumental social support and emotional social support. The degree of instrumental social support, but also the size of one's supportive social network showed no direct effect on mental illness, neither bivariate nor multivariate. These findings are in accordance with other studies that have also reported non-significant relationships between structural network composition variables and mental health (see Lin & Peek 1999). Our results showed that feeling socially supported -instead of the actual amount of (instrumental) social support- that people had receive seemed more important for their mental health. The degree of received emotional support did seem to matter for one's mental health, although surprisingly, the effect was negative. People who receive more emotional support suffered more from mental illness than people who receive less emotional support.The degree of emotional support also does not condition the relationship between marital status and mental illness. Ross and Mirowsky (1989) have reported similar, negative results of emotional support on depression. They found that people who talked to others about their problems showed higher levels of depression. It is assumed that these findings are real and deserve additional research.

Table 3.2 *Overview of hypotheses on social resources and support*

Hypotheses		Support
Hypotheses on having an intimate confiding relationship		
H1a	unmarried people	no partner: in accordance with hypothesis; partner: rejected
H1b	divorced people	rejected
H1c	widowed people	in accordance with hypothesis
H1d	people who recently ended a lasting relationship	in accordance with hypothesis
H1e	unmarried people with higher levels of social support report comparable lower levels of mental illness as married people	rejected
H1f	married women	rejected
Hypotheses on social networks		
H2a	people with smaller networks	rejected
H2b	people who receive less instrumental help	rejected
H2c	people who receive less emotional help	rejected
H2d	emotional help stronger effect on mental health than instrumental help	rejected
Hypotheses on community social resources		
H3	people with lower social participation in society	rejected
Perceptions on social resources		
H4	mental illness due to perception of lower social support	in accordance with hypothesis
H5	mental illness due to lower sense of mastery	in accordance with hypothesis
H6	mental illness due to perception of lower attachment to neighbourhood	rejected

Social participation in society in the end was found not to protect people from mental illness. Multivariate analyses at first showed social participation to be associated with better mental health. Yet, the relationship between participation in society and mental illness seemed brought upon by personality characteristics and age. Older people or people with higher self-esteem or emotional stable personalities participate more actively into society, and these personal resources in turn were associated with better mental health.

The last question we tried to answer was whether the relationship between lower or decreasing levels of objective social resources and mental illness could be explained by the perception of lower or decreasing social resources. Subjective perceptions of social support and mastery were both positively related to mental health. People who feel more socially supported and in control over their own live showed better mental health and thus suffered less from mental illness. The perception of being attached to the neighbourhood did not affect people's mental health. As for the explanatory qualities of perceptions of social support and mastery, these perceptions (in part) proved adequate explanations for the relationship between social or personal resources and mental illness. This was the case for gender, recently ending a lasting relationship, childhood adversity, psychiatric history of the respondent and personality characteristics for as far they were related to mental health. The relationship between different marital states and mental health could not be explained by perceptions of social support and mastery. Only widowed people suffer more from mental illness in part because they feel less support and in control over their lives. Yet, the effects of other categories of martial states increased by including perceptions of support and mastery into our analyses. Turner, Lloyd and Roszell (1999) reported similar low explanatory qualities of mastery for marital status.

When we look at which of the social and personal resources were most decisive for one's mental health, some resources seemed more important for one's mental health than others. Emotional stability and feeling in control of one's life seemed important factors that protect people from mental illness. Of the social resources, having a confiding relationship seemed most important. Being a woman or receiving a great deal of emotional help and ending a relationship pose moderate threat to one's mental health.

The impact of partner or parental social resources on people's mental health was not studied in this chapter since our data unfortunately did not contain any information on the level of social resources of the partner and the family a person grew up in. It seems worthwhile to examine to what extent and how the social resources of the partner and parents affect the individual's mental health, in addition to the individuals' current (social) resources.

4 Cultural resources and mental illness

4.1 Introduction

In this chapter we will study the impact of a lack of cultural resources, more specific *religious resources* on mental illness. Religiosity is considered an important indicator of one's cultural resources (Wilson & Musick 1997). The relationship between religion and mental health has been frequently studied, yet research results are very mixed and often seem contradictory. Some researchers have found beneficial effects of religiosity and religious involvement on mental health. Still, others have reported no significant effects or even detrimental effects on people's mental health (for review see Batson, Schoenrade & Ventis 1993; Hackney & Sanders 2003). This diversity in findings is generally attributed to diversity in operationalizations of both concepts of religiosity and mental health (Hackney & Sanders 2003; Schumaker 1992). Hackney and Sanders (2003) concluded from a meta-analysis in which they studied 35 recently published studies that all of the possible relationships between religion and mental health hold up, dependent on what measures of religion or mental health one chooses. These supposedly contradictory results show that religion is a multidimensional concept in nature, incorporating cognitive, emotional, motivational and behavioural aspects (Ellison, Gay & Glass 1989; Hackney & Sanders 2003; Schumaker 1992). Taken together, research should not focus on whether religion affects mental health, but in which way different dimensions or aspects of religion affect different aspects of mental health (Ellison 1998). So, the relationship between religion and mental health is a complex one (Koenig 1998; Levin & Chatters 1998; Wulff 1997).

Besides diversity in religious or mental health measures, many studies within this area have serious limitations. Most of them are correlational in nature, making it difficult to draw firm conclusions on the impact of religion on one's mental health (or vice versa). Also, many studies draw samples from specific populations like psychiatric patients, elderly, students or religious people (e.g., Braam 1999; Nooney & Woodrum 2002; Schwab & Petersen 1990; Taylor 2001). Overall, regardless of samples, designs, methodologies, religious or mental health measures, there seems to be a positive, yet moderate effect of religion on mental health (Hackney & Sanders 2003; Levin & Chatters 1998; Witter, Stock, Okun & Haring

1985). However, a decreasing number of people seem to benefit from this salutary effect of religion on mental health. An increasing number of people in Dutch society no longer frequently go to church, less people state to believe in God or consider themselves a member of a religious denomination (Te Grotenhuis 1999). Also, the impact of institutionalised churches on society as a whole is declining. Christian beliefs no longer strongly dominate other life areas, and also conceptions within the Christian churches have become more liberal through time (Becker & Vink 1994; SCP 2000). This process, which is described as 'secularisation', has advanced quite far in the Netherlands compared to other European countries (Becker & Vink 1994; Halman 2001). This means that a decreasing number of people have (less) cultural resources.

In this chapter we will study the consequences of having lower or decreasing levels of cultural resources for one's mental health. Thereby, progress is made by focussing on different aspects of religion and how they may affect mental illness. We will include measures of different dimensions of religion into our analyses. Also, we will use a large sample of the Dutch population, thereby including also non-religious people. Furthermore, progress is made by generating hypotheses from the Social Production Function Theory (SPF-theory) on the impact of partner and parental cultural resources on the individual's mental health, in addition to his own current cultural resources. In short, we set out to find answers to the following research questions. First, to what extent is there a relationship between current lower cultural resources and mental illness? In addition to current individual cultural resources we will study the effect of the partner's cultural resources. So, our second question reads: to what extent is there an effect of the partner's cultural resources on mental health in addition to individual cultural resources? The aspect of time is examined in two separate research questions; one on the available cultural resources during childhood, and one on (recent) changes in resources through time. So, the third and fourth research questions read as follows: to what extent is there a relationship between growing up in families with lower cultural resources and adult mental health? To what extent does a decrease in individual cultural resources affect mental illness? These descriptive questions on the relationship between levels of cultural resources and mental illness are followed by an additional explanatory question: to what extent can the relationship between objective cultural resources at the individual level and mental illness be explained by the perception of lower or decreasing cultural resources?

4.2 Theory and hypotheses

4.2.1 Current individual resources and mental illness

In the first chapter we have described in detail the general theoretical perspective, Social Production Function (SPF) theory (Ormel, Lindenberg, Steverink & Verbrugge 1999; Ormel, Lindenberg, Steverink & Vonkorff 1997) from which we stated that an individual's mental health is affected by his level of resources. If a person lacks the necessary resources, faces decreasing levels of resources or losses that are so severe that they surpass the ability to

substitute, they may push the individual to a lower level of psychological well-being. People with lower or decreasing level of religious resources therefore may be more likely to suffer from mental illness than people with higher levels of religious resources. The question is: what do we consider religious resources?

As stated above, many researchers have emphasised that religiosity is considered a multidimensional construct (Ellison et al. 1989; Hackney & Sanders 2003; Schumaker 1992, Schwab & Petersen 1990). However, there is no agreement on the operational definition of the dimensions of religion. The choice of one definition over the other depends on the aim of the research project. For instance, social psychologists who have studied the relationship between religiosity and mental health have focussed more on people's private religious experiences and beliefs (e.g., prayer, experiences with the Divine)[9], whereas sociologist have focussed more on public institutionalised religious behaviour (e.g., church attendance, denomination, integration in religious community). In this study we will follow Stark and Glock's (1968) definition of religion, which includes both private religious experiences and beliefs, and public religious behaviour, and which has been the starting point of many studies.

Stark and Glock (1968) have distinguished five dimensions of religion; a practice dimension, an experience dimension, a belief dimension, a knowledge dimension, and a consequence dimension. All of these dimensions of religion represent cultural resources. So, the level of cultural resources of an individual is determined by the individual's religious practice, his religious experiences, his religious belief, his religious knowledge and religious consequences. More general, people who are (more strongly) integrated into a religious community one way or the other have higher levels of cultural resources.

An individual's *religious practice* involves both public practice that is denomination and church attendance, as well as private practice of religiosity that is prayer. As for denomination, Durkheim (1897/1951) found differences in suicide rates across religious denominations: Protestants were more likely to commit suicide than Catholics. According to Durkheim, these differences in suicide rates could be explained by social integration and social regulation of the respective religious communities. The Catholic Church regulates the behaviour of its members more than the Reformed Church, and because of that Catholics seem better integrated into their religious community. More recently, Tubergen, Te Grotenhuis and Ultee (2001) reported similar results on suicide rates across the different religious denominations. Following this line of reasoning, being integrated into a religious community provides resources that may protect from mental illness. Consequently, people who are not integrated into any religious community have a lower level of cultural resources and therefore suffer more from mental illness than people who are integrated into a religious community (*hypothesis 1*).

Nevertheless, not all church members seem equally protected from mental illness as empirical findings such as Durkheim's study show. Of the three largest religious communities in the Netherlands, that is Catholic Church, Reformed Church and Re-Reformed Church, the social regulation of behaviour is strongest within the Catholic and the Re-Reformed Church

[9] An influential definition of religiosity within the tradition of social-psychology is Allport's intrinsic-extrinsic religious orientation, elaborated by Batson's dimension of quest. Although certainly interesting, this specific definition of religion will be left out of consideration in this study.

and less within the Reformed Church (Dekker, De Hart & Peters 1997). Consequently, members of the Catholic and the Re-Reformed Church would be protected best from mental illness. However, there are substantial differences in the extent to which church members accept that their behaviour is regulated by their denomination. Dekker and colleagues (1997) found that Catholics are least actively involved in their religious community. Compared to Reformed and Re-Reformed, they attend church less frequently, less strongly subscribe to traditional Christian beliefs and religiousness plays a minor role in their daily lives. It seems that Catholics have become less socially integrated into their religious community under the influence of the process of secularisation. The Re-Reformed seem best socially integrated into their religious community compared to Catholics and Reformed. So, accordingly we state that Catholics suffer more from mental illness than Reformed, and that Reformed suffer more from mental illness than Re-Reformed (*hypothesis 2*). Support for this hypothesis has been provided by Braam (1999), however on the basis of a rather small non-representative sample. He reported that if the different denominations were to be ordered by increasing risk of depression, the Re-Reformed would be ranked at the bottom, followed by Reformed, and the Roman Catholics at the top. We will study the extent to which members of certain denominations show increased likelihood to suffer from mental illness.

As for church attendance and prayer, both aspects have been reported beneficial for people's mental health (Batson et al. 1993; Braam 1999; Ellison et al. 1989; Koenig 1997). Of all measures of religion, church attendance is the most frequently studied and often the only indicator of one's religiosity. It seems that people who attend church more frequently show lower rates of depression, anxiety disorder, and higher life satisfaction. The same holds for people who pray. Therefore, we state that people who attend church less often suffer more from mental illness than people who attend church to a greater extent (*hypothesis 3*), and people who do not pray or pray less often suffer more from mental illness than people who (regularly) pray (*hypothesis 4*).

The *experience* dimension involves personal spirituality or personal encounters with the sacred. Stark and Glock (1968) have described this dimension as follows: '…occasions defined by those undergoing them as an encounter…between themselves and some supernatural consciousness…' (p. 126). Ellison and colleagues (1989) showed that of three dimensions of religiosity -(strength of) denomination, religious participation and devotional intensity- the last one is the best determinant of life satisfaction. Also Hackney and Sanders (2003) concluded that these three dimensions of religion all are positively related to mental health, but that personal devotion as they call it, seems to be the most relevant dimension of religion for one's mental health. A study by Witter and colleagues (1985) contradicts this conclusion, stating that religious participation seems more important for subjective well-being than personal devotion. Whether a certain aspect is more important for one's mental health or not, all three studies underline the importance of distinguishing different aspects of religion. While high levels of religious practice may provide social support and reinforcement of shared values, personal religious experience may help individuals to cope with life difficulties. So, next to church membership, church attendance, and (frequency of) prayer we will study the impact of spiritual experiences on mental illness. In accordance with our general proposition we state that people who never had any religious or spiritual experiences suffer more from mental illness than people who actually had religious or

spiritual experiences (*hypothesis 5*).

The *belief* dimension refers to doctrinal beliefs about the existence of an ultimate reality and the meaning of life, suffering and death. Religious beliefs provide moral guidance to handle life difficulties and so reduce distress and anxiety to individuals and help them to find meaning in life. We state that these beliefs are an important explanatory mechanism between lower or decreasing cultural resources and mental illness. The same holds for the *consequence* dimension which refers to the importance people attach to religious beliefs, practice and experiences for their daily lives. Therefore, both dimensions will be discussed further on.

Last, the *knowledge* dimension, which refers to the knowledge people have about the Christian doctrine, and its sacred scripture the Bible. We will leave this dimension of religion out of consideration, since it is unclear to us how and in what manner this religious resource may affect an individual's mental health. Also, we do not know of any study that relates this dimension of religiosity to mental illness.

4.2.2 Partner resources and mental illness

Chapter 2 dealt with the impact of socioeconomic resources on the likelihood to suffer from mental illness. There, we elaborated the SPF-theory by employing a dynamic or life course perspective and partner perspective. We focussed on the socioeconomic family living conditions during one's childhood and how these may affect adult mental health, as well as the partner's socioeconomic resources. In the tradition of social stratification research we generated new hypotheses on the role of parents and partner in the mental health of the individual. Analogously we will study the impact of the cultural 'family living conditions' during one's childhood and the impact of the partner's cultural resources on one's mental health.

Not only the individuals current cultural resources may affect one's mental health, but also the cultural resources of significant people surrounding the individual, that is parents and friends, but in particular the partner. Schepens (1991) showed that the probability for an individual to leave church is related to the religious devotion of the partner. If the partner does not belong to a religious community or to a community other than the partner's ego, an individual is more likely to leave church. Similar results were reported by Need and De Graaf (1996) and Te Grotenhuis (1999). Furthermore, although having a partner has been found beneficial to one's mental health as shown in Chapter 3, research has also found that religiously heterogeneous marriages are more likely to end (Jansen 2002a, 2002b), which in turn may induce mental illness. So, the religious devotion of the partner may be an important factor for one's mental health. In accordance with our theoretical propositions we state that people with a partner who does not belong to a religious community (*hypothesis 6a*) or to a religious community other than the partner's ego (*hypothesis 6b*) have lower levels of cultural resources and therefore suffer more from mental illness than people who's partner is a member of (the same) religious community. Analogously, hypotheses on the impact of other significant people currently surrounding the individual –parents and best friends- can be formulated. So, in addition we state that people with parents (*hypothesis 7a*)

or friends (*hypothesis 8a*) who do not belong to a religious community or to a religious community other than the individual (*hypothesis 7b, 8b*) suffer more from mental illness than people who's parents and friends are a member of (the same) religious community.

4.2.3 Parental resources and mental illness

An individual's amount of cultural resources is to a large extent determined by the family one grew up in as a child. Usually children are born into the religious community of their parents. Only a small percentage of people become a member of a religious community at an older age (Te Grotenhuis 1999). Moreover, the cultural family living conditions or religious climate a child grew up in are decisive for one's religious behaviour. The probability to leave church in time is larger for children when both parents are religiously heterogeneous (one being non-religious) or higher educated during childhood (Te Grotenhuis & Scheepers 2001; Need & De Graaf 1996; Williams & Lawler 2001). Also, Need and De Graaf (1996) found that people who frequently attended church during childhood were less likely to leave church. Te Grotenhuis (1999) supports this conclusion, but based on the empirical finding that people attending church weekly during childhood show a higher likelihood to leave church than people attending church monthly. He argues that a too strict religious upbringing may lead to opposite effects, increasing the probability to leave church. Above, we stated that being integrated into a religious community provides cultural resources that may protect from mental illness. So, people who grew up in a family where both parents were a member of (the same) church or who regularly participated into religious meetings during childhood are better integrated into their religious community and therefore have more cultural resources. Consequently, we state that people who grew up in a family where neither of the parents were a member of church (*hypothesis 9a*) or were parents were religiously heterogeneous (*hypothesis 9b*) have lower levels of cultural resources and therefore suffer more from mental illness than people who's parents were (homogeneously) church members. Also, people who did not frequently attend church during childhood (*hypothesis 10*) or people who have not been religiously raised (*hypothesis 11*) have lower levels of cultural resources and therefore suffer more from mental illness than people who did frequently attend church during childhood or who were raised religiously.

4.2.4 Over time changing individual resources and mental illness

According to SPF-theory not only people with lower cultural resources at a certain point in time suffer more from mental illness, but also people who face decreasing levels of cultural resources over time. When people's resources are decreasing over time, one is no longer able to fulfil instrumental or universal goals. This can lead to distress, and in the end mental illness. Consequently, we argue that people who left their religious community at one point in time face decreasing cultural resources and therefore suffer more from mental illness than people who still are integrated into a religious community (*hypothesis 12a*). Empirical

support for this proposition has recently been provided by Meertens, Scheepers & Tax (2003), based on a representative sample of inhabitants of Nijmegen. Apart from leaving church, we also argue that people who stopped attending church regularly face decreasing cultural resources and therefore suffer more from mental illness than people who still do attend church (*hypothesis 12b*).

4.2.5 Explanations for the relationship between cultural resources and mental illness

Several explanations for the relationship between religion and mental illness have been proposed. Three frequently mentioned mechanisms by which religion might affect mental health are: (1) through a system of beliefs and mental attitudes, (2) through increased social support, (3) through increased feelings of mastery and self-esteem (Ellison 1998; Koenig 1997; Levin & Chatters 1998; Stack 1992).

Religious communities provide rules for many areas in life. They have specific norms about health-related behaviour such as sexuality or alcohol consumption. Also, they provide religious beliefs that give moral guidance to handle difficulties in life and so reduce distress and anxiety. Besides, as a potential coping mechanism in the presence of distress, these beliefs may offer hope and a sense of coherence to individuals and help them to find meaning in life. So, religious groups provide structures which may protect an individual from what has been called anomie or normlessness (Durkheim 1897/ 1951). People who are not integrated into a religious community lack such predefined answers to existential questions as the meaning of life and death, good and evil. Instead, they are bound to define their own beliefs or moral guidance. We state that a lack of such 'predefined answers' may be an important explanatory mechanism between people with lower or decreasing cultural resources and mental illness. People who are not integrated into a religious community or who left their religious community at one point in time are less likely to accept the moral guidance offered by Christian church and because of that are more likely to suffer from mental illness. Also, people who are less strongly integrated into their religious community may question the regulated norms and beliefs of their religious community more and be less likely to internalise them. In other words, they may be less likely to accept the beliefs offered by the Christian church, which in the end may induce mental illness. So, people who attend church less frequently, who stopped attending church frequently, people who do not pray, and people who do not have any religious experiences suffer more from mental illness, due to accepting the Christian beliefs offered by church to a lesser extent (*hypothesis 13*). The same holds for people who are surrounded by a partner, parents or friends who are not a member of a religious community, or one different from their own. They may have trouble to remain loyal to their church and its moral guidance as they are confronted with other possible norms and beliefs (Schepens 1991). Additionally, we state that people who grew up in secular family living conditions, or who live with a partner who is not a member of (the same) church, or parents or friends who are not members of (the same) church suffer more from mental illness, due to accepting the Christian beliefs offered by church to a lesser extent.

Also, we state that people who are less strongly integrated into a religious community are less likely to internalise these religious norms and values into day-to-day life and because of that suffer more from mental illness. People who state that religiosity is important in their every day life are believed to have internalised the religious norms and beliefs. In that case religiosity can give guidance in everyday decisions. Based on their empirical finding that personal devotion is more strongly related to mental health than institutional religiosity and denomination, Hackney and Sanders (2003) state that religiosity needs to be internalised in order to sort out the largest beneficial effect on one's mental health. Although Hackney and Sanders (2003), and Ellison and colleagues (1989) too, do not explicitly distinguish between personal devotion or devotional intensity and the consequential dimension, they assume that people who have more religious experiences automatically internalise these experiences and employ them in every day life. We will not assume that encountering such experiences means that religiosity is taken into account in people's everyday decisions. Instead, we will confront this statement with empirical data. So, in accordance with our general proposition we state that people who are not or less strongly integrated into a religious community suffer more from mental illness because religiosity does not play an important role in every day life decisions (*hypothesis 14*). So, non-members, people who left church, people who do not attend church frequently (any more), pray or who do not have spiritual experiences, people who grew up in a secular or religiously heterogeneous family, or people who currently are surrounded by partners, parents, or friends who are non-members or members of a different denomination suffer more from mental illness because religiosity does not seem internalised into their daily life decisions.

The second mechanism through which religion may affect mental health is by providing social support and a social network. Churches provide the opportunity to meet like-minded people, which in turn may enhance the cognitive and institutional framework (Nooney & Woodrum 2002). Ellison and George (1994) found that church members report higher levels of social support than non-church members. We will study whether people who are not or less strongly integrated into a religious community suffer more from mental illness due to the perception of less social support (*hypothesis 15*). We argue that non-members, people who left church, people who do not frequently attend church (any more) or pray, people who do not have spiritual experiences, or people who grew up in a secular or religiously heterogeneous family, or who now are surrounded by a partner, parents, of friends who are non-members or members of a different denomination, suffer more from mental illness, due to the perception of less social support.

The last mechanism through which religion may affect mental health is by increased feelings of mastery and self-esteem. It is believed that individuals gain positive emotions like feelings of self-esteem and personal efficacy or mastery as a result of public and private devotional activities, by developing a personal relationship with a higher power (Ellison 1998). Within Christian doctrine, God is depicted as a personal God who cares for every individual personally; who can be reached for and be influenced by prayer and is willing to forgive any mistake if one confesses mistakes and asks Him for forgiveness. So, by committing one's life to God, one may feel more self-esteem and control over one's life. Empirical findings have supported these theoretical notions. Krause and Van Tran (1989)

showed that religious involvement whether public (church attendance) of private (prayer) is associated with increased feelings of self-esteem and mastery. In turn, feelings of self-esteem and mastery have been convincingly shown to be beneficial to people's mental health (Mirowsky & Ross 1989; Pearlin, Lieberman, Menaghan & Mullan 1981; Ross & Mirowsky 1989; Ross & Sastry 1999). In this chapter we will study whether people who are not or less strongly integrated into a religious community suffer more from mental illness due to the perception of lower mastery (*hypothesis 16).* So, we argue that non-members, people who left church, people who do not frequently attend church (any more) or pray, people who do not have spiritual experiences, or people who grew up in a secular or religiously heterogeneous family, or who now are surrounded by a partner, parents, of friends who are non-members or members from a different denomination, suffer more from mental illness, due to the perception of lower mastery.

4.3 Data and measurement instruments

To test the hypotheses formulated above, we use a large-scale cross-sectional data set that has been newly collected as part of the national Dutch survey 'Social and Cultural Developments in the Netherlands 2000 (SOCON)' (Eisinga et al. 2002). This large-scale dataset is representative for the general Dutch population, and contains information from 1008 respondents on religious attitudes and behaviours and mental health, and also many background characteristics such as age and education. The data was collected through a stratified randomly selected sample. For a more detailed description of this data set see Chapter 2.

Dependent variable: mental illness

Mental illness is measured by the short Mental Health Inventory (MHI-5). It consists of five items in which people are asked if they experienced feelings of anxiety and depression during the last four weeks. The five items make a valid and reliable measurement instrument (Cronbach's alpha =.77). Factor analysis showed that the five items all refer to one dimension with factor loadings varying from -.60 to .78. A more extensive description of the MHI-5, as well as the results of the factor analysis can be found in Chapter 2, §2.3. Sum scores were constructed for the five items, after which they were linearly transformed to a scale ranging from 0 to100. High scores indicate better mental health. Lower scores indicate less good mental health, i.e., mental illness.

Cultural resources at the individual level

To determine one's religious *denomination,* respondents were asked whether they considered themselves a member of a Christian church or religious community and if so, which denomination they considered themselves to be a member of. Based on this information a typology was constructed comprising four categories[10]: (1) members of

[10] The number of non-Christian religious people in the Netherlands is growing. Unfortunately, only a small number of non-Christian people was represented in our sample. Therefore, they are left out of our analyses. The same argument applies to the differences between certain Christian churches.

Catholic Church, (2) members of Reformed Church, (3) members of Re-Reformed Church, (4) non-members. The majority of people, 61.8 percent stated not to be a member of any Christian church. Of the people who did consider themselves member of a Christian church, nearly a quarter, 23.4 percent stated to be a member of the Catholic Church. *Church attendance* was measured by a direct question on whether the respondent ever attended services of a church or religious community. The respondent was presented four answering categories: attend church about once a week, attend church about once a month, attend church once or twice a year, hardly ever / never attend church. Again, the majority of our sample, 51.2 percent stated hardly ever or never to attend such services, followed by 28.3 percent of the respondents that attended church services once or twice a year. To measure an individual's *frequency of prayer* respondents were asked if they ever prayed. Four answer categories were presented to the respondent: often, regularly, sometimes, and never. Of the 895 people that answered the question, 28.9 percent stated to pray often or regularly. To measure *spiritual experiences* an open question was posed. Respondents were asked whether they ever had the feeling that God or another spiritual force was somehow in their presence in the last years. If so, they were asked to describe this experience. From the descriptions people gave about their spiritual experiences, the presence of God or another spiritual force was often felt by people in difficult life situations; situations that could be labelled as acute negative life events (e.g., disease of loved ones, death of loved ones). Based on these descriptions we constructed a dichotomy with score one if people had one or more spiritual experiences and zero otherwise. Only 271 people of our sample answered the question, 200 of them stated to have spiritual experiences. This small number of valid answers is partially explained by admitting this question into the self-administered mail-questionnaire, which gave the respondents time to think about these highly personal experiences, but also made it possible for the respondent to return the mail-questionnaire partly uncompleted. One could argue that especially people who had spiritual experience are willing to tell about them. Therefore we coded people who stated not to have such experiences and people who did not answer the question zero. People who had missing scores on this question did not have significantly different mental health scores. Of the total sample, 19.7 percent of the people stated to have had spiritual experiences.

Partner's (and significant others) cultural resources

The denomination of the partner is measured by a specific typology in which the membership of Christian church of the respondent and the membership of Christian church of the partner are compared. If respondents stated that their partner was not a member of any religious community respondents were given score zero on this typology: (0) partner is not a member of any Christian church. If respondents stated that their partner was a member of Christian church, religious denomination of the respondent and partner were compared. If people were a member of different religious communities, respondents were given score one: (1) partner is a member of Christian church, but not the same as the respondents, otherwise respondents were given a score two: (2) partner is a member of the same Christian church. Category one also contains partners who themselves are members of church, but their spouses, the respondents are non-members. Of our sample, 17.3 percent of the respondents indicated not to have a partner at the moment that is someone they are

married to or live together with. Of the people with a partner, 57.6 percent stated that their partner was not a member of any Christian religious community and 32.0 percent stated that their partner was a member of the same Christian church. Only a small part of the respondents, 10.4 percent stated that their partner was a member of a different church compared to them. The *number of religious best friends* is measured by a direct single question how many of the respondents' best friends considered themselves members of a Christian church or religious community. Four answering categories were presented to the respondent: all, most, some and none. No information was gathered on which Christian church the respondent's best friends are members of. Of our sample, 23.7 percent of the respondents stated that all or most of their best friends considered themselves church members, 28.0 percent of the respondents stated that none of their best friends considered themselves church members.

Parental cultural resources

To measure *the religious climate respondents grew up in* three indicators will be included into the analyses: denomination of the parents when respondents were between twelve and fifteen years old, whether respondents were raised religiously, and whether respondents attended church regularly during childhood. The denomination of the parents and church attendance of the respondents during childhood thereby are more objective indicators of the religious climate respondents grew up in and the individual's religious behaviour, whereas being religiously raised seems to indicate the more subjective experience of religiousness at home. To measure *denomination of the parents during the respondent's childhood* we constructed a typology based on whether father and mother were a member of Christian church when respondents were at the age between twelve and fifteen years, and if so which Christian church. The typology comprised four categories: (1) both parents are a member of the same Christian church, (2) both parents are a member of a Christian church, but different religious communities, (3) one of the parents is a member of church, the other parent is not, (4) both parents do not belong to any Christian religious community. Of our sample, 61.0 percent of the parents were members of the same Christian church, meaning that the respondents grew up in a religiously homogeneous climate. In 15.7 percent of the cases the respondents grew up in a heterogeneous religious climate, as parents belonged to different religious communities or one of them being non-member of a religious community. *Religious upbringing* was measured by a single question: whether or not respondents were raised religiously. The respondents were presented three answering categories: yes, a little and no. A large majority, 71.1 percent of the respondents positively answered this question, stating to be raised at least a little religiously. Since this question does not provide insight into what this religious upbringing contains, we also included a more objective measure of religious behaviour that is church attendance during one's childhood. *Church attendance during childhood* was measured in a similar way as church attendance at the present age. Nearly half of our sample, 48.2 percent attended church regularly, about once a week and 31.3 percent hardly ever or never attended church during childhood.

(Recent) decrease of cultural resources

A decreasing level of cultural resources of the respondent will be indicated by two variables: leaving church and changes in church attendance. To indicate whether respondents at one point in their lives had *given up church membership* a typology was constructed. People who currently did not consider themselves members of any Christian Church were asked whether they did consider themselves members at one point in time. If respondents indicated to have left church, they were asked in what year they left church. Based on these answers we distinguished between people who gave up church membership within the last ten years and people who gave up their church membership more than ten years ago. A quarter of the respondents, 24.8 percent could be labelled as apostates, i.e. people who gave up church membership. Most of them, 20.9 percent left their church more than ten years ago. To measure *changes in church attendance* we constructed a typology based on two questions. First, respondents were asked whether they had ever attended service of a church or religious community. Then, the respondents were asked whether they had attended services of a church or religious community between the age of twelve and fifteen. Based on this information a typology was constructed comprising three categories: (0) same frequency attending church services, (1) attending church services has declined over time, (2) attending church services has increased over time. Nearly as many people, 44.5 percent, stated that their church attendance had stayed the same compared to childhood, as the number of people that stated that church attendance had decreased, 49.4 percent. Only 6.1 percent of the respondent went to church more often compared to their childhood. An overview of the (decreasing) cultural resources of the respondent described in this section is given in Appendix C.1.

Control variables: personal resources

We will take the potential impact of personal resources into account when studying the effect of cultural resources on mental illness. We thereby make a distinction between (1) personal resources that may increase the risk of experiencing mental illness, that is acute negative life events, childhood adversity, the respondents psychiatric history, family psychiatric history, chronic physical disability, and (2) personal resources that may decrease the risk of experiencing mental illness, that is personality characteristics. In addition we will also control for one's level of education, age and gender. Studies have shown that these variables influence a person's degree of religiosity. Higher educated people are more likely to be non-members of church or to leave church (Becker & Vink 1994; Need & De Graaf 1996; Schepens 1991). Also, older people and women tend to attend church more often and show stronger faith in God (Te Grotenhuis 1999). All of the variables we will control for have already been described in detail in the previous two chapters, Sections 2.3 and 3.3.

Perceptions on cultural resources

In order to measure the respondents' beliefs system, respondents were presented several statements about belief in a higher reality, meaning of life and death, suffering and good and evil. Felling, Peters and Schreuder (1982, 1986) have elaborated upon different kinds of beliefs about these existential matters. In this study we will distinguish between Christian beliefs and world-directed beliefs. People who subscribe to beliefs offered by Christian

Church believe for instance, in another, transcendental world besides the earthly world. The meaning of life, suffering and death is directly related to this transcendental world. People who more strongly subscribe to inner-worldly beliefs do not believe in a transcendental world, just the earthly world. The meaning of life, suffering and death needs to be found within this one world. Not a higher power or God gives meaning and direction to people's life, but the people themselves. Integral factor analyses showed that both beliefs can be distinguished from one another, but are moderately related (r=.36). Separate factor analyses showed that the items to measure Christian beliefs form a valid and reliable measurement instrument (Cronbach's alpha=.94). The same holds for the items that measure an inner-worldly belief (Cronbach's alpha= .82). *Salience of religion* was measured separately for church-members and non-members. Church-members were presented five statements about the role of religion or Christian faith in their daily lives (Cronbach's alpha=.93). Non-members were presented similar statements, except that the word 'Christian faith' was replaced by the word 'worldview' in order enlarge validity of the concept (Cronbach's alpha=.91). We computed mean scores on the five items for both members and non-members who had at least three valid scores on the five statements. Last, the mean scores of members and non-members were combined into one variable. The perception of *social support* and a *sense of mastery* have already been described in detail in Chapter 3, Section 3.3 (also see Appendix B.2). A description of the other intermediating variables and the results of the factor analyses are presented in Appendix C.2.

4.4 Method

The effect of (decreasing) cultural resources on mental illness will be tested in several steps by multiple regression analyses. In order to draw conclusions about potential differences between categories of respondents, the categorical variables have been dummified (Hardy 1993): denomination of the respondents and their partner, frequency of prayer, denomination of the parents during childhood, religious upbringing, given up church membership, changes in church attendance, and the psychiatric history of the respondents and their family. Just as in previous chapters on socioeconomic and social resources we computed compound-variables (Eisinga, Scheepers & Van Snippenburg 1991) to determine the relative weight of the categorical variables in order to conclude on the decisiveness of cultural and personal resources for people's mental health. Compound variables were computed as the weighted sum of the previously estimated unstandardized regression coefficients. The direction of the parameters of these standardized compound variables cannot be interpreted meaningfully, since it is positive by definition as a consequence of the procedure. The direction of the parameters can be read from the unstandardized regression coefficients.

The variables acute negative life events and childhood adversity had substantial numbers of missing scores. By computing a dummy for the respondents who had missing scores on each of these two variables we were able to test whether the data missing were random. In both cases these respondents did not have significantly different mental health scores. In order to enlarge the number of respondents both variables were recoded: score

zero indicating having encountered no acute negative life events or childhood adversity or having a system missing on (one of) these variables. A similar problem occurred for the variable 'denomination of the partner'. In our sample, 17.2 percent people stated not to have a partner. This substantial amount of subjects would be excluded from our analyses once the cultural resources of the partner are taken into account. In order to avoid the risk of non-representativeness in dropping these subjects and the loss of statistical power, we applied a procedure described in detail by Cohen and Cohen (1975). As stated above the categorical variable denomination of the partner was dummified. We included an extra dummy variable into our analyses that equals one for respondents with no partner.

No specific measure of the current denomination of the parents of the respondent was included into our analyses. We already established the religious climate the respondent grew up in by the denomination of the parents during childhood. Since the denomination during childhood and current denomination of the parents may be similar to a large extent, including an additional variable would cause serious collinearity. Therefore, *hypothesis 7a* and *7b* could not be tested. The same holds for *hypothesis 8b*, since the respondents was only asked about the number of best friends who were a member of a religious community. No information was gathered on which Christian church the respondent's best friends considered themselves members of. However, the issue of self-evaluation and social comparison with others seems relevant and worthwhile to examine more closely.

4.5 Results

Table 4.1 shows the unstandardized regression coefficients for six models. Model I is considered the 'base-model', in which the four dimensions of religiosity are related to mental health. After examining the impact of these individual cultural resources on mental illness, other cultural resources will be added in a sequence of steps to asses their relevance for people's mental health, over and above these individual cultural resources. In model II, the cultural resources of significant other people surrounding the respondent -partner and best friends- are included, in addition to the people's own cultural resources. In the third model parental resources during childhood are accounted for. Model IV considers the impact of recently decreasing cultural resources on people's mental health. In model V and model VI the impact of cultural resources and decreasing resources on mental health is controlled for by personality characteristics and other personal resources that may affect an individual's mental health. Finally, in model VII five intermediating variables are presented to examine to what extent relationships between (objective) cultural resources and mental illness is interpreted by subjective perceptions.

Four dimensions of religiosity: denomination, church attendance, prayer and spiritual experiences

In the first model all four dimensions of religiosity are included. These four dimensions of religiosity explain only a small part of the variance in mental health score. Bivariate analyses showed that all of the cultural resources are rather strongly related to one another, yet most of them show only moderate correlations with mental illness. This finding is supported by

earlier studies (Hackney & Sanders 2003; Levin & Chatters 1998; Witter et al. 1985). When we look at religious denomination, it can be seen that Roman Catholics, Reformed and people who are not a member of Christian church all show lower levels of mental health than the reference group, the Re-Reformed. It seems that people who are not integrated into any religious community suffer most from mental illness. Even when controlling for other cultural resources, decreasing cultural resources, personal resources and explanatory variables, the effect holds up, even though it does decrease (model VI). Therefore *hypothesis 1* cannot be rejected. Being a member of a religious community protects people's mental health.

However, it does matter to which religious community one belongs. The risk to suffer from mental illness differs across religious denominations. Roman Catholics suffer more from mental illness than the Re-Reformed. The effect decreases when other cultural and personal resources are taken into account, yet remains significant. At first, the Reformed also suffer more from mental illness than the Re-Reformed (model I), but when the cultural resources of the partner and best friends are included (model II), the Reformed no longer seem to differ from the Re-Reformed in their risk to experience mental illness. So, if we were to order the different religious denominations by increasing risk of mental illness the Re-reformed would be ranked at the bottom, together with the Reformed, followed by the Catholics at the top. *Hypothesis 2* needs to be partially rejected. Findings reported by Braam (1999) are only partially reproduced here.

As for church attendance, model I shows that church attendance does not seem beneficial to one's mental health. Church attendance does not show a direct effect on mental illness in any of the different models presented in table 4.1. So, *hypothesis 3* needs to be rejected. Studies (e.g., Batson et al. 1993) that reported church attendance to be beneficial to one's mental health are not reproduced here. Church attendance only shows an indirect effect through one's (inner-worldly) beliefs on existential matters (see Appendix C.3).

Hypothesis 4 also needs to be rejected. People who never pray do not suffer more from mental illness. As opposed to our hypothesis, people who never pray seem to have better mental health compared to people who pray often. When personal resources are accounted for the effect decreases and becomes non-significant, indicating that the effect of prayer on mental health is due to these personal resources. Many studies have found that higher educated people are less religious (e.g. Te Grotenhuis 1999). The reported relationship in this study between prayer and mental health is at least partially, brought upon by level of education.

As for having spiritual experiences, people who never have had such experiences do not suffer more from mental illness. Therefore *hypothesis 5* needs to be rejected. Analogously to frequency of prayer, people who never have had spiritual experiences seem to have better mental health than people who did have such experiences. When the cultural resources of the partner and best friends are taken into account (model II) the effect decreases and becomes non-significant.

Overall, not all of the individual cultural resources seem relevant for one's mental health. Being a member of a Christian church seems more important for one's mental health than one's actual religious behaviour or experiences. Although church attendance and

Table 4.1 *Empirical model I to VI: unstandardized regression coefficients of (decreasing) cultural resources and personal resources on mental health (Nmin=692); Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)*

Model	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Constant	75.62	78.47	81.21	81.08	86.07	82.81	46.01
Cultural resources							
Denomination of respondent (Re-Reformed = ref)							
Reformed	**-4.02~**	-3.79	-2.80	-2.60	-2.89	-1.46	-2.53
Roman Catholic	**-4.25***	**-4.28***	**-3.87***	**-3.87***	**-3.95***	**-3.23~**	**-3.67***
non-member	**-8.26****	**-6.43****	**-5.92***	**-6.24***	**-5.72***	**-4.06~**	**-4.99***
Church attendance	.61	.15	-.09	.57	.07	.09	-.12
Frequency of prayer (often = ref)							
regularly	.79	.72	-.12	-.27	.15	-1.90	-2.44
sometimes	.53	.40	-.86	-.82	-1.08	-1.50	-2.23
never	**5.46****	**5.49****	**4.65***	**4.32***	3.33	.45	-.89
No spiritual experiences (spiritual experiences = ref)	**2.34~**	1.61	1.28	1.34	.50	1.04	.61
Denomination of partner (same denomination as respondent = ref)							
member of Christian church, different denomination as respondent		.99	1.15	1.16	.45	-2.09	-2.08
non-member of Christian church		**-3.23~**	**-3.01~**	-2.87	**-3.41***	**-2.96~**	**-3.07***
Not having a partner (having a partner= ref)		**-7.67****	**-7.25****	**-7.07****	**-6.18****	**-5.89****	**-5.40****
Number of religious best friends		.10	-.42	-.38	-.56	-.72	-.46
Denomination of parents during childhood (both same church = ref)							
both parents member of Christian church, different denominations			-.16	-.30	-.89	-2.86	-1.46
one parent member of Christian church, other non-member			-1.93	-2.35	**-2.84~**	-1.31	-.23
both parents non-member of Christian church			**-3.09~**	-3.09	**-3.46~**	-2.25	-1.88
Religious upbringing (yes = ref)							
a little			-1.30	-1.14	-.91	-1.01	-1.61
no			.84	1.49	1.70	.02	.35
Church attendance during childhood			.07	-.54	-.73	-.66	-.66
(Recent) decrease of cultural resources							
Given up church membership (remaining church member = ref)							
given up church membership 10 years ago or less				**-5.10***	**-5.17***	-3.00	-.84
given up church membership more than 10 years ago				2.14	**3.39***	1.18	.10

Model	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Changes in church attendance (church attendance the same = ref)							
church attendance decreased				.94	.97	.96	1.12
church attendance increased				-2.61	-1.01	-2.96	**-4.25***
Personal resources (1)							
Acute negative life events (no negative life events = ref)					.45	-.57	-.47
Childhood adversity (no childhood adversity = ref)					**-2.79****	**-1.97***	-1.42
Psychiatric history respondent (never treated = ref)							
treated one time, first time age 6-29					**-7.22****	**-4.20***	**-4.39***
treated one time, first time age 30-66					**-7.40****	**-4.52***	**-4.58***
treated two times or more, first time age 6-29					**-10.98****	**-5.22~**	-3.46
treated two times or more, first time age 30-66					**-15.43****	**-11.13****	**-10.39****
Psychiatric history family (no psychiatric treatment =ref)							
parent(s) or siblings psychiatric treatment					-1.30	-.70	-.51
both parent (s) and siblings psychiatric treatment					.23	-.27	-1.13
Chronic physical disability (no physical disability = ref)					-1.09	-.64	-.36
Personal resources (2)							
Extraversion						.06	-.59
Conscientiousness						.59	.27
Agreeableness						**1.05***	**.79~**
Emotional stability						**6.41****	**4.83****
Resourcefulness						**1.10***	.61
Level of education						.12	-.09
Age						**.08***	**.12****
Gender						-.53	-.16
Intermediating variables							
Christian beliefs							.02
Inner-worldly beliefs							**1.28~**
Salience of religion							.26
Perception of social support							.15
Sense of mastery							**1.54****
Adjusted R^2	.04	.07	.07	.07	.13	.35	.44

frequency of prayer fail to show a direct impact on mental illness, they do affect people's beliefs on existential matters. In this way, they indirectly affect people's mental health.

Partner's cultural resources and best friends

Model II considers the impact of the cultural resources of the partner and best friends. First of all, having a partner is beneficial to one's mental health. People without a partner suffer more from mental illness. Furthermore, it not only matters whether one has a partner, but the characteristics of the partner also matter for one's mental health. In addition to the individual's cultural resources, having a partner who is not integrated into a Christian religious community negatively affects one's mental health. People whose partner are non-members of Christian church suffer more from mental illness than people whose partner are members of that same Christian church. Therefore, *hypothesis 6a* cannot be rejected. This effect remains significant even when controlling for a loss of cultural resources, personal resources and intermediating subjective perceptions (model VI). Also, it seems more important *that* the partner is a member of a religious community, rather than *which* particular religious community this involves. People whose partners have a different denomination than their own show equally good mental health than people whose partners are members of the same religious community. So, *hypothesis 6b* needs to be rejected. Living with a religiously heterogeneous partner does not negatively affect one's mental health. While the partner's cultural resources seem very important for people's mental health, the cultural resources of their best friends[11] do not. People with less religious friends do not suffer more from mental illness. *Hypothesis 8a* needs to be rejected.

Cultural family resources during childhood

Model III explores the impact of the cultural childhood living conditions on people's mental health. This model shows that the cultural family resources during childhood have a direct effect on people's adult mental health, over and above the current cultural resources of the individual. People who grew up families in which both parents are non-members of Christian church suffer more from mental illness than to people whose parents were members of the same Christian church. However, when controlling for personality characteristics, educational level, age and gender (model VI), the effect of the cultural family resources during childhood decreases and becomes non-significant. Therefore *hypothesis 9a* needs to be rejected. Growing up in families with lower cultural resources does not have direct enduring negative consequences for adult mental health. Yet, indirectly does the denomination of the parents during childhood affect adult mental health through perceptions of inner-worldly beliefs and mastery.

Hypothesis 9b also needs to be rejected. The effect of growing up in a heterogeneous religious climate is negative, which indicates less good mental health. The parameter however, fails to reach significance. When personal resources as childhood adversity, the psychiatric history of the respondent and its parents are accounted for the effect of growing up in families in which only one of the parents is a member of church increases and

[11] Treating the 'number of religious friends' as a categorical variable gave similar results. None of the categories showed significant impact on mental health in any of the models presented in Table 4.1.

becomes significant (model V), to turn non-significant again once personal resources are included which protect people from mental illness. In the end (model VI), growing up in families with a religiously heterogeneous climate does not induce mental illness. Also, people who were not raised religiously or who did not attend church (more often) during childhood do not suffer more from mental illness. Both *hypotheses 10* and *11* need to be rejected. Church attendance during childhood does affect an individual's mental health indirectly through inner-worldly beliefs.

Although there seems no direct impact of the religious climate during childhood, the parental cultural resources during childhood may affect the individual's level of cultural resources and thus indirectly affect adult mental health. Studies (e.g., Te Grotenhuis & Scheepers 2001; Williams & Lawler 2001) have shown that people who grew up in families in which one of the parents is not integrated into a Christian religious community are more likely to give up church membership. This means that growing up in such families directly influences the amount of individual cultural resources. Table 4.2 shows the impact of the parental cultural resources during childhood on the church membership of the respondents.

Table 4.2 *Indirect effects of parental cultural resources on adult mental health: impact of cultural childhood living conditions on church membership of the respondent (logistic regression coefficients are shown)*

Model	Member of church (yes / no=1)		Member of church (yes / no=1)	
	b	Exp (B)	b	Exp (B)
Church membership parents (both member, same = ref)				
both parents member of Christian church, different denominations	**.68~**	**1.96~**	**.77***	**2.16***
one parent member of Christian church, other non-member	**2.08****	**8.02****	**2.11****	**8.23****
both parents non-member of Christian church	**2.75****	**15.68****	**2.79****	**16.22****
Psychiatric history respondent at age 21 (no = ref)	20.53	.00	20.44	.00
Psychiatric history parents (no = ref)	.27	1.31	.25	1.28
Education of respondent			**.14****	**1.15****
Nagelkerke pseudo R square	.33		.34	

Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)

These logistic regression analyses shows that as the cultural resources of the parents during childhood increases, people seem less likely to give up church membership. People who grew up in families in which only one of the parents is integrated into a religious community, are about eight times more likely to give up church membership. People who grew up in families in which both parents are a member of a different Christian church are about twice

more likely to give up church membership. The psychiatric history of the respondent at age 21 and the psychiatric history of the family both do not affect the likelihood to give up church membership. Our findings do not support the argument of selection into lower levels of cultural resources because of a prior history of mental illness of the respondent or his family. The educational level of the respondent does affect the likelihood to give up church membership, although the parental cultural resources during childhood seem more important As people attain higher educational levels, the more likely they seem to give up church membership.

(Recent) decrease of cultural resources

Model III deals with over time changes in individual cultural resources. It shows that given up church membership recently, within the last ten years, negatively affects people's mental health. People who recently have given up their church membership suffer more from mental illness than people who remained members of Christian church. However, when personality characteristics, educational level, age and gender are taken into account this effect decreases substantially and turns non-significant (model V). The effect of given up church membership longer than ten years ago at first is positive, which indicates that people who gave up their church membership over ten years ago show better mental health (model V). Again, once personal resources as personality characteristics, educational level, age and gender are taken into account the effect decreases and turns non-significant. So, although giving up church membership at first seems to have different consequences over time for people's mental health, in the end people who left their religious community do not suffer more from mental illness compared to people who stayed a member of their religious community. *Hypothesis 12a* therefore needs to be rejected. The relationship between given up church membership and mental illness is brought upon by personality characteristics, level of education, age and gender.

Nearly half of our sample reported that their church attendance decreased compared to their childhood. Although the cultural resources of these people have decreased, model III shows that they do not suffer more from mental illness compared to people who still attend church regularly ever since childhood. A small percentage of people in our sample stated that their church attendance has increased since childhood. Surprisingly, these people seem to suffer more from mental illness compared to those whose church attendance has stayed the same over time, when frame of reference and self-perceptions are included in the model (model VII). So, people who now attend church more often than during their childhood, suffer significantly more from mental illness. A possible explanation for this finding may be found in family formation. Jansen (2002b) found that church attendance increased after the birth of a child. Apart from the benefits of being a parent, parenthood is also found related to mental illness (McLanahan & Adams 1989; Sachs-Ericsson & Ciarlo 2000). Also, people who face difficulties in life may be drawn to church to cope with this mental illness. Studies have pointed to the coping potential of religiosity for people who experience distress or illness (Pargament & Brant 1998; Taylor 2001). Nevertheless, *hypothesis 12b* needs to be rejected. Not people whose church attendance decreased over time are more likely to suffer from mental illness, but rather people whose church attendance has increased over time suffer more from mental illness.

Our findings on giving up church membership and decreasing church attendance show that a decrease of cultural resources not necessarily induces mental illness. A (recent) loss of cultural resources may be compensated for by substituting them for other (cultural) resources.

Personal resources

In model V, personal resources that may increase the likelihood to suffer from mental illness are included in the model. By doing so the variance in mental health-scores explained by all predictors increases from 7 percent to 13 percent. These personal resources thereby seem just as important as all of the cultural resources to predict one's mental health score. Yet, still much of the variance in mental health scores remains unexplained. Most of personal resources 'behave' in a similar way as they did in the previous two chapters. They show constant effects on mental illness, whether one includes socioeconomic, social or cultural resources in the model.

Having experienced acute negative life events during the last five years does not have a direct impact on one's mental health. The mental health of people who experienced random stressors during the last five years does not differ from people who did not experience random stressor. Although acute negative life events may be particularly stressful, it seems more important how people deal with these events, rather than whether or not people encounter such events.

Bivariate analyses showed childhood adversity to be significantly related to mental health. Multivariate testing supports this finding. People who faced childhood adversity suffer more from mental illness. When personality characteristics, educational level, age and gender (model VI) are taken into account the effect becomes smaller, but stays significant. When subjective perceptions are included into the model, the effect turns insignificant. This indicates that the effect of childhood adversity can be interpreted through beliefs on existential matters and sense of mastery.

When we look at the psychiatric history of the respondent it can be seen that people who have been treated for mental complaints somewhere in their life suffer more from mental illness than people who have never been treated. So, being treated for mental complaints somewhere over the life span implies a long-term vulnerability to mental illness. When including personality characteristics, educational level, age and gender and subjective perceptions of support and mastery into our model all of the effects become smaller, but stay significant. Except for the effect of people who have been treated for mental complaints two times or more in their life, and who have been treated for the first time at a young age, which can be interpreted fully by these variables. The worst mental health is shown by people who have been treated two times or more, and who have been treated for the first time at an older age, between 30 and 66.

The psychiatric history of the family does not directly affect an individual's mental health. Bivariate analyses showed a significant relationship between an individual's mental health and growing up in a family in which some of the family members suffered from mental complaints, but multivariate analyses failed to show such an effect. So, in the end, growing up in these families does not increase the likelihood to experience adult mental illness. The same holds for having a chronic physical disability. People with a chronic

physical disability or handicap do not suffer more from mental illness. So, it seems that one's physical health does not necessarily affect one's mental state of mind. People may well learn to deal with and adjust to their condition and function to the best of their ability.

In model VI personality characteristics, educational level, age and gender are taken into account, variables that are thought to protect from mental illness. These variables additionally explain a substantial amount of variance in mental health scores (22 percent). People who describe themselves as emotionally stable personalities suffer less from mental illness. The same holds for people who describe themselves as agreeable personalities or being resourceful or inventive personalities. Although low self-esteem could be a result of mental illness, most researchers consider high self-esteem to protect against mental illness, which is confirmed in this study. Being an extraverted or conscientious person seems unrelated to mental health.

Level of education does not show a direct impact on one's mental health, as already was been concluded in Chapter 2 on socioeconomic resources. Studies that have reported that lower educated people suffer more from mental illness (e.g. Ross et al. 1989, Turner, Wheaton & Lloyd 1995, Tausig, Michello & Subedi 1999) are not reproduced here. Yet, by including educational level in our model we were able to show that some of the reported relations between cultural resources and mental illness were (partially) influenced or brought upon by people's level of education.

Just like in previous chapters, age seems positively related to mental health. As people get older they suffer less from mental illness. As for gender, bivariate analyses showed gender and mental health to be significantly related. Women tend to have less good mental health compared to men. Yet, our multivariate analyses fail to support this statement, as can be seen in model VI and VII. When all of the cultural, personal resources and intermediating variables are taken into account, women show equally good mental health as men. So, gender does not have a direct impact on one's mental health.

Intermediating variables

Last, we included the explanatory variables Christian beliefs, inner-worldly beliefs, salience of religion, social support and mastery into our model (Model VII). The variance in mental health explained by all of the predictors increases from 35 to 44 percent. So, these subjective perceptions themselves contribute to the explanation of mental health. It can be seen that the effect of Christian belief is very small and non-significant. So, subscribing Christian beliefs is not related to mental health. People who are more strongly integrated into Christian church, indicated by religious practice such as church attendance, prayer, or spiritual experiences, do more strongly subscribe the Christian beliefs on existential matters (analyses not shown), but this does not protect them from mental illness. Accepting the Christian beliefs to a lesser extent therefore cannot contribute to the explanation of mental illness. So, *hypothesis 13* needs to be rejected.

On the other hand, accepting inner-worldly beliefs on existential matters does protect people from mental illness. Such beliefs are positively related to mental health. So, accepting a frame of reference for questions about human existence and the meaning of life in which humans themselves are given a central role protects people from mental illness. In line with this result is the finding that a sense of mastery benefits to one's mental health.

People who feel that they are in control of their own life suffer less from mental illness. Salience of religion in daily life and social support do not directly benefit to one's mental health. Both effects are in line with our propositions, but parameters fail to reach significance. *Hypotheses 14* and *15* therefore need to be rejected. Salience of religion for people's daily lives and the perception of social support cannot interpret the relationship between having a certain level of cultural resources and suffering from mental illness. Being more strongly integrated into a religious community, measured by religious behaviour such as church attendance and prayer does help to internalise religious norms and behaviour, but this does not seem to protect an individual from mental illness.

When intermediating variables are included the relations between cultural or personal resources and mental illness are influenced in several ways. Some effects decrease substantially and become non-significant, meaning that the intermediating variables fully explain the relationship between these variables and mental illness. This is the case for having faced childhood adversity and the personality characteristic 'resourcefulness'. When we focus on the significant intermediating variables inner-worldly beliefs and mastery, analyses (not presented here) show that people with higher self-esteem and who describe themselves as resourceful or creative suffer less from mental illness, solely due to the perception of high levels of mastery. People who faced childhood adversity suffer more from mental illness in part due to personality characteristics, but also because of their belief in existential matters and feeling less control over their life. The effects of the personality characteristics 'agreeableness' and 'emotional stability' or having a partner become smaller when all intermediating variables are included into the model, but still remain significant. This indicates that intermediating perceptions only partially explain the relationship of these resources with mental illness. Last, some effects grow stronger, as is the case with religious denomination and increasing church attendance. Overall, when we focus exclusively on the effect of the cultural resources on mental illness, one need to conclude that the significant effects of cultural resources at best can only be partially explained by people's frame of reference and perception of mastery. Therefore, formulated hypotheses about how the relationship between (decreasing) cultural resources and mental illness can be explained by these subjective perceptions need to be partially rejected.

Decisive predictors of mental illness

That leaves the question which of the predictors in our final model (model VII) is most decisive for one's mental health. To answer this question we look at the standardized regression coefficients in Appendix C.3. This appendix shows compound-variables for the dummified categorical variables as we described earlier. As can be seen, being an emotionally stable personality and having a sense of control over one's life seem best to protect from mental illness. Less decisive but still relevant is having a partner and the psychiatric history of the respondent, followed by religious denomination and age, denomination of the partner, no longer attending church frequently and inner-worldly beliefs. Of the four dimensions of religiosity, only denomination shows a direct impact on an individual's mental health. Whether one is a member of a religious community and which religious community one is a member of seem more decisive for one's mental health, than whether one practices his religion, either public or private.

Table 4.3 *Overview of hypotheses on cultural resources and support*

Hypotheses		Support
Current individual cultural resources		
H1	non-member of religious community	in accordance with hypothesis
H2	Catholics> Reformed> Re-Reformed	partially in accordance with hypothesis
H3	lower church attendance	rejected
H4	lower frequency of prayer	rejected
H5	no spiritual experiences	rejected
Partner (and significant others) cultural resources		
H6a	partner non-member of religious community	in accordance with hypothesis
H6b	partner member of different religious community than ego	rejected
H8a	best friends non-members of religious community	rejected
Parental cultural resources during childhood		
H9a	parents non-member of religious community during childhood	rejected
H9b	parents member of different religious community during childhood	rejected
H10	lower church attendance during childhood	rejected
H11	not raised religiously	rejected
Over time changing individual cultural resources		
H12a	leaving church	rejected
H12b	stopped attending church regularly	rejected
Perceptions on cultural resources		
H13	mental illness due to less accepting Christian beliefs on existential matters	rejected
H14	mental illness due to low salience of religion	rejected
H15	mental illness due to perception of lower social support	rejected
H16	mental illness due to lower sense of mastery	in accordance with hypothesis

4.6 Conclusions and discussion

In the Netherlands there is a growing number of non-religious people and people leaving Christian church. In this chapter we studied the potential consequences of this macro-level process for an individual's mental health. We simultaneously tested a great deal of hypotheses on the relationship between cultural resources and mental illness. Our results showed that people who are not integrated into a religious community suffer more from mental illness. So, being a member of a religious community protects people from mental

illness. Yet, not all denominations equally protect from mental illness. It seems that Roman Catholics suffer more from mental illness than the Re-Reformed and Reformed. Significant mental health differences were found between Catholics and Re-Reformed, not between the Reformed and Re-Reformed. The Reformed showed equally good mental health as the Re-Reformed. These results thereby only partially replicated the findings reported by Braam (1999).

Furthermore, our results showed that being a member of Christian church is more important for mental health than actual religious behaviour. Both public and private religious behaviour, indicated by church attendance, prayer or having spiritual experiences did not directly protect people from mental illness. These dimensions of religiosity only indirectly affected one's mental health through beliefs on existential matters.

We generated new hypotheses on the role of the partner and parents on the individual's mental health. In line with the Social Production Function we argued that the cultural resources of significant people currently surrounding the individual and the 'cultural' family living conditions during one's childhood may affect people's mental health. As for the partners' cultural resources, our findings showed that the denomination of the partner directly affects the individual's mental health over and above the cultural resources of the individual. If one's partner is not integrated into a religious community, the likelihood to suffer from mental illness increases. It seems more important for one's mental health *if* the partner is integrated into a religious community, than *what* specific Christian church this involves. The partner's membership of a Christian church other than the individual did not directly induce mental illness, however it does affect the likelihood to give up church membership (Schepens 1991), which in turn may induce mental illness. Furthermore, religiously heterogeneous relationships are more likely to end (Jansen 2002b), which increases the likelihood to suffer from mental illness. So, having a partner protects people from mental illness, but the cultural resources of the partner may also put people at risk to suffer from mental illness. Whereas the cultural resources of the partner seem very important for one's mental health, the cultural resources of best friends do not. People with less religious friends surrounding them did not suffer more from mental illness.

As for the parental resources during childhood, no direct effect was found of the cultural family living conditions during childhood on people's mental health. However, growing up in lower cultural family living conditions does indirectly affect people's mental health. The cultural parental resources during childhood determine to a large extent the cultural resources of the individual: whether one is a member of a religious community, which religious community this involves, and also one's public religious behaviour. No evidence was found for the selection into lower levels of cultural resources because of a prior history of mental illness of the respondent or his family. The likelihood to give up church membership was not affected by the prior psychiatric history of the respondent at age 21 or his family. Furthermore, the parental resources during childhood affect people's frame of reference and self-perceptions and so one's mental health. Therefore, in order to truly estimate the impact of religiosity on one's mental health, one needs to account for the cultural parental resources during childhood.

Next to having lower levels of cultural resources we formulated hypotheses on the impact of (recent) decreasing levels of cultural resources. Our analyses initially showed

different consequences over time: people who have given up church membership recently suffer more from mental illness, while people who gave up their church membership over ten years ago have better mental health. Yet, the relationship between given up church membership and mental illness seems spurious, brought upon by people's personal resources as personality characteristics, educational level, age and gender. In the end, people who left their religious community at one point in time have equally good mental health as people who still are integrated into a religious community. Also, people whose church attendance has decreased over time did not suffer more from mental illness compared to people who ever since childhood attended church regularly. These findings on decreasing recourses suggest that a (recent) loss of cultural resources may be compensated for by substituting them with other (cultural) resources, which in turn may decrease the likelihood to suffer from mental illness. Remarkably, people who reported *increased* church attendance over time suffered more from mental illness. A possible explanation for this finding is family formation. Jansen (2002a) found church attendance to increase after people get children. Also, people who face difficulties in life may be drawn to church to cope with these difficulties. Studies have pointed to the coping potential of religiosity for people who are experiencing distress or illness (Pargament & Brant 1998; Taylor 2001). Nevertheless, not only people with lower levels of cultural resources but in some cases also people with higher levels of cultural resources may be at risk to experience mental illness. Similar conclusions were drawn in Chapter 2 on socioeconomic resources.

Last, we tried to answer the question whether the relationships between lower cultural resources and mental illness could be explained by people's beliefs on existential matters, salience of religion for daily life, feelings of social support and self-perceptions. Only inner-worldly beliefs and mastery showed direct positive effect on an individual's mental health. Christian beliefs, salience of religion for daily life and social support failed to show direct impact on mental illness. Although inner-worldly beliefs on existential matters and feelings of mastery themselves contribute to the explanation of mental illness, the cultural resources that showed significant effects on mental illness could only be partially explained by them. None of these effects could be fully interpreted by these variables.

Taken together, we have been able to explain a substantial amount of variation in mental health. Yet, the level of cultural resources only accounted for a relatively small part. As reported in previous chapters being an emotional stable personality and feeling in control of one's life again seemed most decisive for one's mental health. Having lower cultural resources does not necessarily induce mental illness, since not all types of cultural resources seem relevant for someone's mental health. In some cases also higher levels of cultural resources increases the likelihood to experience mental illness. Future research on mental illness should therefore focus more on the conditions under which certain factors show an impact on one's mental health. It thereby seems necessary to study a wide range of resources simultaneously since lower levels of resources may be compensated for by other resources and also levels of resources may affect one another. In the following chapters we will study different types of resources simultaneously when we examine the interface between work and family.

5 Combining resources: Work-Family interface and mental illness

5.1 Introduction

In the previous three chapters we focussed on different types of resources and how they may affect an individual's mental health. According to Social Production Function theory, having lower levels of resources may induce mental illness. This general proposition was supported by our findings. People with lower socioeconomic, social and cultural resources (e.g., people in a lower social class, or people without employment, people without a partner or who recently ended their relationship and people who were not integrated into a religious community) suffer more from mental illness compared to people with higher resources. However, having more resources does not in all cases seem to protect people from mental illness. There were some exceptions: people with higher income and people who experienced upward intragenerational mobility, people who are integrated into certain denominations and people whose church attendance increased in comparison to their childhood all reported more mental illness. These findings indicate that studying different types of resources separately may provide insight into factors that play a role in the process of mental illness, but they do not tell the whole story. In order to gain insight into the social circumstances that make people vulnerable to mental illness, it seems very important to study different types of resources *simultaneously* (Barnett 1998; Tausig, Michello & Subedi 1999). Lower or decreasing levels of resources may be compensated for by other resources, thereby dissolving the potential negative impact for one's mental health. However, some resources may lack good alternatives (Champion & Power 1995) or in some cases the losses are so severe that they surpass the ability to substitute. Furthermore, the accumulation of resources may also lead to strain and mental illness as the interface between work and family shows. On a macro level scale there is a growing number of women entering the labour market and an increasing rate of divorce and single parent families. These two macro level changes are related. Women that participate in the labour force show a significantly increased likelihood of getting a divorce (Fokkema & Liefbroer 1999). Women's increased economic independence is considered to be the most deciding factor in the rising divorce rate. An increasing level of economic resources seems thereby accompanied by a loss of

social resources. Another consequence from the growing number of women on the labour market is that more women have to deal with working outside the home and running a family at the same time (Van Praag & Niphuis-Nell 1997; SCP 1998). Nowadays, about 47 percent of the working population in the Netherlands combines a paid job (≥12 hours) with domestic and care taking duties at home (≥ 8 hours) (SCP 2001). Empirical research has shown that the combination of parental and occupational roles may induce depressive symptoms, especially for women (Pugliesi 1989; Windle & Dumenci 1997).

In this chapter we will study different types of resources *simultaneously.* We will focus on the situation in which working outside the home (economic resource) is combined with taking care of children (social resource)[12], in previous studies also referred to as the work-family interface. The interface between work and family shows how (higher) levels of different types of resources are interrelated and as such need to be studied. We will study which conditions of (combining) work and family may induce mental illness. In short we set out to find answers to the following questions: Which characteristics of work and family put people at risk of mental illness? And, to what extent can the relationship between characteristics of work and family and mental illness be explained by the perception of work-family conflict?

5.2 Theories on work-family interface and mental illness

With a growing number of women entering the labour market, the consequences of employment for women's health have received a great deal of attention. Working outside the home and having children indicates having higher levels of socioeconomic and social resources compared to people who do not have a paid job and/or children. According to Social Production Function theory (Ormel et al. 1997, 1999) higher levels of resources induce psychological well-being. If an individual faces lower or decreasing levels of resources, they may push the individual to a lower level of psychological well-being, which in the end may induce mental illness. Consequently, people who work outside the home and who combine that with taking care of children should be less likely to suffer from mental illness, due to higher levels of socioeconomic and social resources. Each of these activities may increase self-esteem and fulfilment and thereby contribute independently to good mental health. Yet, researchers who have studied the work-family interface have reported mixed results.

Two main contradictory perspectives can be found within the research of work-family interface, each supported by empirical evidence. First, the *role accumulation hypothesis* implies that multiple social roles in general have positive effects on one's mental health. The difficulties or demands in one role may be offset by the positive attributes of the other roles (Lennon & Rosenfield 1992; Nordenmark 2002; Sachs-Ericsson & Ciarlo 2000). The availability of alternative roles may serve as a buffer against distress experienced in one role. For example, being a single parent is generally related to higher rates of mental illness (e.g., McLanahan & Adams 1989; Sachs-Ericsson & Ciarlo 2000), which indicates the

[12] In this chapter the level of cultural resources will not be studied. Having cultural resources is not discussed within the literature on the work-family interface.

significant demands of parenthood. Having a partner to share the demands of parenthood seems to reduce the burden. Next to marriage, also employment seems to offset the harmful effect of parenthood. Employed mothers seem less distressed than mothers who mainly take care of their children (Fokkema 2002)[13]. Besides acting as a buffer for distress experienced in one role, occupying multiple social roles also generates opportunities and resources that may contribute to personal growth (Geurts, Taris, Demerouti, Dikkers & Kompier 2002). So, combining a paid job with children seems beneficial for one's health.

Occupying multiple roles may also place conflicting demands (e.g. time, energy) on an individual. This is known as the *role stress hypothesis*. For instance, if one's paid job requires working overtime frequently, this may conflict with family demands (work-to-family conflict) or, if one's child is sick this may put strains on work demands (family-to-work conflict)[14]. Although women's share in paid labour has increased substantially, they have stayed primarily responsible for household and family duties (Van der Lippe 1993). Men's share in the domestic duties has hardly increased over time (SCP 2001). This means that both working outside the home and taking care of children for (some) women means taking on an extra burden, which can bring about stress and mental illness (Rosenfield 1999). Research has consistently shown work-family conflict to be related to feelings of burnout, anxiety, depression and alcohol abuse (Allen, Herst, Bruck & Sutton 2000; Geurts & Demerouti 2003; Jansen, Kant, Kristensen & Nijhuis 2003).

Whether or not combining social roles is beneficial or harmful for one's mental health depends on the balance between the benefits of having certain social roles and the demands of these social roles. The more demands experienced in one's social role(s), the more these demands outweigh the benefits of these social roles, which may in the end induces mental illness. So, having multiple social roles in itself does not harms one's mental health as has often been suggested, but rather depends on the characteristics of one's work and family situation (Geurts et al. 2002; Hankin 1990). The number of possible antecedents found in the work-family literature is numerous and covers a wide area. This may be the result of the variety of disciplines that have studied the work-family interface, all handling a more or less specific scope, and the disagreement on what constitutes work/family (Barnett 1998; Geurts et al. 2003). Apart from this theoretical issue, research on the work-family interface has had a number of limitations. Many empirical studies have included only (married) women. This seriously limits the ability to generalize findings to the general working population (Barnett 1998; Fokkema 2002; Geurts et al. 2003; Nordenmark 2002). In addition, Bekker (1995) and Fokkema (2002) have also criticized studies on the work-family interface by stating that working mothers have been perceived as a homogeneous group, thereby practically ignoring the different circumstances employed women can be found in. However, the conditions of work and family vary substantially among women. To evaluate the impact of multiple social

[13] The possibility of selection processes should not be ruled out here. The finding of better mental health among employed mothers may be (partially) due to the fact women need to have good mental health in order to be able to combine paid work and having children (Fokkema 2002; Nordenmark 2002).

[14] Research has shown that work-to-family conflict is more prevalent than family-to-work conflict (Frone 2003; Geurts & Demerouti 2003). The impact of family has more often been found to affect the working life in a positive way.

roles on one's mental health is it necessary to account for relevant differences in the work and family situation of women, but also of men. Furthermore, many studies on work-family interference have primarily focussed on the level of the individual, thereby ignoring the social context, i.e., the families the individual is part of (Barnett 1998; Frone 2003). A partner provides several resources (e.g. income, social support) that may offset the demands experienced in social roles, and protect from mental illness. On the other hand, the partner's resources may also put strains on the individual. Having a partner who frequently works overtime puts pressure on the balance between work and family (Geurts, Rutte & Peeters 1999), which in turn may induce mental illness. More working hours limits the presence of the partner within the home and as such the extent to which the partner can contribute to family duties. The partner's participation in household duties has been found to affect the individuals' mental health (Menaghan & Parcel 1990; Mirowsky & Ross 1989). When husbands and wives share household work more equally, women – employed and non-employed- showed better mental health. So, in order to understand what it is about occupying multiple roles that may induce mental illness, the partner's resources needs to be studied more explicitly.

In this study we will focus on three social roles, that is employee, parent and partner, and we will study to what extent the combination of several of these social roles is related to mental illness. This study gives way to these limitations by including first of all both men and women into our analyses. Next, we will study several aspects of both job and family in order to provide insight on what it is about combining work and family that may induce mental illness. Furthermore, next to the individual's work and family situation, the partner's work (and family) situation will be accounted for.

In accordance with the *role accumulation hypothesis* and SPF-theory we state that occupying more social roles is beneficial for one's mental health (*hypothesis 1*). Having a job, being a parent or having a partner are all considered resources which seem positively related to one's mental health. They provide social support, financial income and/or higher self-esteem. Therefore, more social roles indicate more resources, which protect people from mental illness. Research has consistently shown that having a job or being married is beneficial for one's mental health (Bekker 1995, Menaghan & Parcel 1990; Mirowsky & Ross 1989; Rosenfield 1989). People who work outside the home show better mental health than people who work inside the home[15]. The same holds for the married (Umberson & Williams 1999). Findings on being a parent are somewhat less conclusive (Roxburgh 1997).

However, in line with the *role stress hypothesis* one is able to formulate competitive hypotheses on the effect(s) of combining several social roles on mental health. We state

[15] However, compared to employed men, women in paid labour force show higher rates of distress and depression (Mirowsky & Ross 1989; Roxburgh 1997; Turner, Wheaton & Lloyd 1995). These differences may be due to job characteristics. Women tend to be overrepresented in professions or sectors (e.g. health service) which have relative bad employment conditions and high levels of absenteeism, and which can be characterized as more stressful: lower social prestige, lower wages, higher work pressure, limited decisional authority, and limited promotion ability (Van der Giezen & Geurts 2001; Laitinen-Krispijn & Bijl 2002; Tausig, Michello & Subedi 1999; Verdonk, Peeters & Geurts 2001).

that high demands in the work and/or family situation may induce mental illness. Several job characteristics have been studied as to how they may affect one's mental health. Although having a job seems to protect an individual from mental illness, some jobs place high demands on people, which may lead to conflict and mental illness. Demands related to one's work situation that we will study are the number of hours working, and whether people experience a demanding job indicated by high levels of work stress.

Work may be more demanding if people spend more time at their work because it limits the available time at home. Research on work schedule has shown mixed results. Fokkema (2002) found that women with younger children with a part-time job of less than 24 hours a week show better health than women in more time-consuming jobs. Except for married women with adult children, their health benefited most from a larger job. Nordenmark (2002) found that neither women nor men who work more than 40 hours per week are more distressed than others. Apart from work schedule, the contents of one's job may also be demanding. Especially job pressure and decisional authority have been given a great deal of attention within the study of work and mental health. Both job characteristics were found to be related to psychiatric disorder among the Dutch working population (Laitinen-Krispijn & Bijl 2002). Other studies found that not necessarily high job pressure, but the combination of high job pressure and limited decisional authority was associated with lower general psychological well-being, distress and burn-out (Van der Doef & Maes 1999; Karasek 1979; Tausig 1999). We hypothesize that people with longer working hours (*hypothesis 2a*), who experience higher job pressure (*hypothesis 2b*), lower decisional authority (*hypothesis 2c*) or lower skill discretion (*hypothesis 2d*) suffer more from mental illness.

Demands related to one's family situation that we will study are having young children living at home, spending more time on household duties, a partner who works long hours or who spend little time on household duties. Young children living at home need more care compared to teenage or adult children and therefore put more strains on combining work and family. Many studies have suggested that children have a negative impact on the psychological well-being of parents, especially single parents (Brown & Harris 1978; Goldsteen & Ross 1989; McLanahan & Adams 1989; Mirowsky & Ross 1989; Ross, Mirowsky & Goldsteen 1990). However, the demands and benefits of parenting seem to differ depending on the age and living arrangements of children (Goldsteen & Ross 1989, Umberson & Williams 1999). Goldsteen and Ross (1989) showed that when children are young and still live at home, parenting shows negative consequences for one's mental health. But as children mature and leave the house, parenting has been found to benefit to mental health. In the empty-nest period, the relationship between parent and child takes on new meaning and this may be very rewarding for parents. In this stage of the life course, the benefits of parenting seem to outweigh the costs. Umberson and Gove (1989) and Ross, Mirowsky and Goldsteen (1990) have reported similar findings. As for the time spent on household duties, this seems negatively related to depressive symptoms for both men and women (Glass & Fujimoto 1994; Shelton & John 1996). Furthermore, paid employment and household labour are related: the more hours people work, the less time they spend on household duties. Nevertheless, women continue to do the majority of housework which puts them more at risk of mental illness compared to men (Van der Lippe 1993; SCP 2001).

Studies on the partner's contribution within the family situation seem fairly consistent. The partner's social support has been shown to positively affect the mental health of (employed) women (Geurts et al. 1999; Menaghan & Parcel 1990; Mirowsky & Ross 1989; Roxburgh 1997). Women whose husbands share in household work and child care also seem able to meet the demands of work and family roles better (Carlson & Perrewé 1999). We hypothesize that people with younger children living in the household (*hypothesis 3a*), who spend more time on household duties (*hypothesis 3b*), who's partner works longer hours (*hypothesis 4a*) or who's partner spend less time on household duties (*hypothesis 4b*) suffer more from mental illness.

In addition to the demands of social roles we will explore whether the mental health effect of a role may vary depending on other roles people occupy. Combining certain roles may either increase or decrease the net effect of a social role on one's mental health. We state that the effect of employment may vary depending on whether one has children (*hypothesis 5*). The positive effect of employment may be offset or decreased by the demands of parenthood. Also, the effect of employment may vary depending on whether one has partner (*hypothesis 6*). It has been stated that employment and marriage provide similar resources that is income and social support, and because of that may substitute for each other (Waldron, Weiss & Hughes 1998). If so, employment may be less beneficial for the mental health of married men and women. Last, we state that effect of parenting may differ for people with a partner (*hypothesis 7*). Having a partner may act as a buffer against the demands of parenthood.

Intermediating variables: perceived work-family conflict

So far we formulated hypotheses on work and family characteristics that may put people at risk of mental illness. We stated that people with high demands in work and/or family situation suffer more from mental illness. In order to explain this relationship we will focus on the perception of work-family conflict[16] in its two manifestations of work-to-family conflict and family-to-work conflict. Work-family conflict reflects the goodness of fit between work and family life and therefore may function as a pathway through which conditions of work and family affect one's mental health. Previous studies have supported this notion. Conflict between work and family was related to numerous consequences ranging from poor physical health, burn out, fatigue (e.g., Geurts et al. 1999; Grandey & Cropanzano 1999; Jansen et al. 2003), to general psychological symptoms, depression, anxiety and alcohol abuse (e.g., Frone, Russell & Cooper 1992; Kinnunen, Geurts & Mauno 2004; for a review see Allen, Herst, Bruck & Sutton 2000; Geurts & Demerouti 2003). Accordingly, we state that people with high demands in work and/or the family situation will suffer from mental illness due to the perception of work-family conflict (*hypothesis 8*).

[16] The term work-family conflict will be used throughout this chapter to refer to both work-to-family conflict and family-to work conflict.

5.3 Data and measurement instruments

To test the hypotheses formulated in Section 5.2, we use a large-scale cross-sectional data set that has been newly collected as part of the national Dutch survey 'Social and Cultural Developments in the Netherlands 2000 (SOCON2000)' (Eisinga et al. 2002). The data were collected through a stratified randomly selected sample, and contains information from 1008 respondents. For a detailed description on this data set see Chapter 2.

Dependent variable: mental illness

Mental illness was measured by the short Mental Health Inventory (MHI-5). It consists of five items in which people are asked if they experienced feelings of anxiety and depression during the last four weeks. We constructed sum scores over the five mental health items, after which the scores were linearly transformed to a scale ranging from 0 to 100, with high scores indicating better mental health. Lower scores indicate less good mental health, i.e., mental illness. A more extensive description of our outcome measure, the MHI-5 can be found in Chapter 2.

Independent variables: work characteristics

To measure *work schedule,* respondents were asked if they had a paid job at the moment of the interview, and if so, how many hours they usually work a week. A paid job was described as a more or less steady job for which the respondents received payment regularly, and paid taxes over and social security contributions. In our sample, 69.2 percent stated to have a paid job at the moment, working 35.2 hours a week on average. A description of this variable and other variables discussed in this section can be found in Appendix D.1. The numbers of working hours were categorised into three categories: working less than 21 hours a week (small part-time job), working 21 thru 36 hours a week (large part-time) and working more than 36 hours a week (full-time).

More qualitative aspects of one's job were measured by three separate scales: decisional authority, job pressure and skill discretion (Karasek 1979). These three scales indicate different potential stressful aspect of work. Decisional authority refers to the potential control one is able to have over the tasks he or she is performing. Job pressure refers to work load people experience and skill discretion refers to the level of skills required in one's job. Factor analyses showed that these three aspects of work are (moderately) related, yet distinctive from each other (see Appendix D.2). Based on these results we constructed three scales. *Decisional authority* was measured by two items. These two items form a valid and reliable measurement instrument (Cronbach's alpha=.79), with communalities higher than .20 and factor loadings higher than .81. By summing up the scores over the two items, a new variable was constructed. *Job pressure* was measured by three items. These three items also make a valid and reliable measurement instrument (Cronbach's alpha=.86). A new variable was constructed by summing up scores over all items. *Skill discretion* was measured by one single item in which the respondents were asked if their jobs required people to do repeatable things. About 43.1 percent of the respondents stated that this (in part) was the case.

Independent variables: family characteristics

To measure whether the respondent *has children,* we constructed a typology based on whether the respondents had children, whether children were living at home and the age of the youngest child living at home was. Of our sample, 67.1 percent of the respondents stated to have one or more children. The age of the youngest child living at home ranged from 0 to 40 years old, with the average age of the youngest child living at home being 10.7 years. Based on these variables we constructed a typology comprising four categories: no children, youngest child living at home 0 through 4 years, youngest child living at home between 5 and 18 years, children older than 18 either living at home or not.

The *time spent on household duties by respondents* was measured in two steps for reasons of accuracy. First, people were asked how many hours a week they usually spent on household duties. Household duties were described as all duties (like cleaning, doing groceries, laundry, gardening, house maintenance, finances etcetera) with the exception of the care for children. Next, people were asked how many hours a week they usually spent on their children. To calculate the total time people spent on household and family -besides work- the number of hours were summed up.

A dichotomy was constructed to measure whether people *have a partner* or not. Respondents were asked whether they were married or were living together with someone. In our sample, 74.4 percent stated to have a partner with whom they were living together. People who stated to have a partner, but with whom they did not live together were coded 'not having a partner'.

The *work schedule of the partner* and the *time spent on household duties by the partner* were measured similar to the work schedule of the respondent and the time he or she spent on household duties. About 30.6 percent of the partners in our sample did not have a paid job. The partners that did have a paid job on average worked 36.3 hours a week and spent 25.3 hours a week on household duties. The numbers of working hours of the partner were also categorised into three categories: working 20 hours or less a week, working between 21 and 36 hours a week (part-time) and working more than 36 hours a week (full-time).

As control variables we included gender and the psychiatric history of the respondent into our analyses. Both variables have been described in detail in previous chapters (Chapter 2, §2.3.2). The psychiatric history of the respondent may give us some clues about possible selection processes (see Chapter 1).

Intermediating variables: work-family conflict

Work-family conflict was measured by two separate scales, one indicating work-to-family conflict (WFC), the other indicating family-to-work conflict (FWC). We will distinguish between WFC and FWC, since conflicts between work and family are reciprocal in nature: work can interfere with family (work-to-family conflict) and family can interfere with work (family-to-work conflict) (Allen et al. 2000). The two types of work-family conflict have been shown to be distinct, yet related concepts, which have different antecedents and consequences (Frone et al. 1992; Grzywacz & Marks 2000). Both WFC and FWC were measured by four items which were derived from the 'Survey Work-Home Interference-Nijmegen (SWING) (Wagena & Geurts 2000). Factor analysis showed that work-to-family

conflict and family-to-work conflict indeed are distinct yet related concepts (see Appendix D.3) as has been reported earlier by others. WFC and FWC were constructed in similar ways by computing the mean score of the four items, when at least three items had valid scores. Both constructs proved valid and reliable measurement instruments (Cronbach's alpha WFC=.76, FWC=.72). The correlation between the variables described in this section can be found in Appendix D.4.

5.4 Method

We used multiple regression analysis to test the hypotheses formulated in Section 5.2. The effect of work and family characteristics on mental illness will be tested in several steps. In order to draw conclusions about potential differences between categories of respondents some variables have been dummified (Hardy 1993): the work schedule of the respondents and their partner and whether respondents had children living at home. To determine an overall effect for these categorical variables on mental illness, we constructed compound variables (see Eisinga, Scheepers & Van Snippenburg 1991). Since these compound variables provide insight into the relative impact of the categorical variables, we will be able to determine which resources contribute to or best protect from mental illness. The direction of the effect of these compound-variables needs to be read from the unstandardized regression coefficients. Age was not included into our analyses as a covariate because of its high correlation with the age of the youngest child living at home, which causes collinearity.

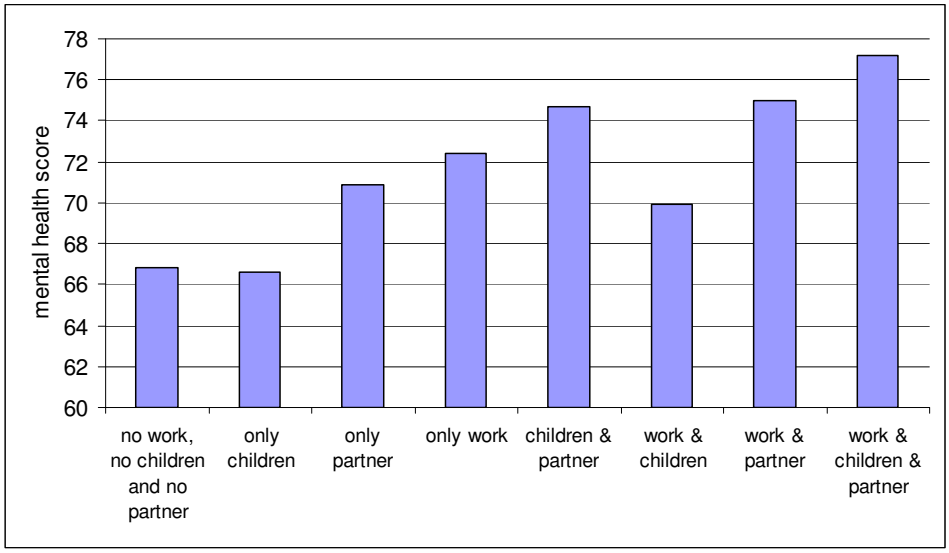
5.5 Results

Figure 5.1 describes the mean mental health scores of people with different social roles that are having children, having a partner and/or a paid job. In this figure we view the quantity of social roles: the number of social roles a person occupies. As can be seen, the mean mental health scores increases as the number of social roles increases. People with only one social role report more mental illness than people with two or three social roles. This pattern is interrupted by single parents who work and at the same time take care of children. Combining work and family seems more difficult for these single parent families possibly because they lack the support of a partner. However, not having a job at all seems even more detrimental for their mental health. Single parents without a job show even lower mental health scores. Their mean mental health scores are comparable to the health scores of people with the least social roles: people without children, work or a partner. People with the most social roles seem to have the best mental health. So, the role accumulation hypothesis is supported by these findings. Occyping more social roles indicate more resources, which is beneficial for one's mental health. Especially people who combine work and children and who have the support of a partner show good mental health. Therefore, *hypothesis 1* cannot be rejected.

However, the quality of the experiences of each of these social roles is not taken into account here. The characteristics of each of these social roles may be more important for

one's mental health than occupying these social roles per se. So, next we will consider how characteristics of work and family role are related to mental illness, controlled for gender and the psychiatric history of the respondent.

Figure 5.1 *Mean mental health score by type and number of social roles*



Work and family characteristics

Table 5.1 shows the unstandardized regression coefficients for five models. In the first model the characteristics of work and family are related to one's mental health. In the second model interaction terms are included to test the formulated hypotheses on the interaction between work and family characteristics. Model III considers if perceived work-to-family conflict and family-to-work conflict can interpret the relationship between work and family characteristics and mental illness. Model IV and V show how work and family characteristics are related to work-family conflict.

In model I it can be seen that working more hours a week is beneficial for one's mental health. People with full-time jobs report better mental health than people with small part-time jobs, the reference category. At first, it does not seem to matter for one's mental health whether one has a small or a large part-time job. The effect of having a large part-time job is not significant. However, when work-family conflict is accounted for (model III), the effect of having a large part-time job turns significant, meaning that the perception of work-family conflict suppresses the relationship between work schedule and mental illness. Nevertheless, *hypothesis 2a* needs to be rejected. Working more hours a week seems to protect people from mental illness instead of threatening people's mental health as our proposition stated. This finding may be (in part) due to selection-processes. In order to have a larger job, one needs to have better mental health. To conclude on this matter we inspected the distribution of people who have been treated for mental complaints by work

schedule. It seems that people who have been treated for mental complaints are underrepresented in full-time jobs and overrepresented in larger part-time jobs (χ^2=5.797, df=2). However, as our results show, after accounting for these past differences in mental health, the effect of work schedule remains significant. In other words, apart from the fact that people who have been treated for mental complaints in part select themselves into part-time jobs, having a full-time job also appears to promote one's mental health.

When we look at other characteristics of one's job it can be seen that having higher decisional authority and higher skill discretion both positively affect one's mental health. People who experience more control and more skill variety in their job have better mental health. This means that lower decisional authority and lower skill discretion both induce mental illness. *Hypotheses 2c* and *2d* therefore can not be rejected, as opposed to *hypotheses 2b* on job pressure which needs to be rejected. Job pressure does not seem directly related to mental illness. Some studies have reported the effect of job pressure to be dependent on the level of decisional authority. To test this possibility we included an interaction term into our model (analyses not shown here). No significant interaction effect of job pressure and decisional authority was found. When we look at family characteristics it can be seen that having children living at home, irrespective of their age, does not harm one's mental health. The mental health of people with children does not significantly differ from the mental health of people without children. Although the effect of having young children is in accordance with our proposition, it turns out non-significant. The bivariate relationship between having children and mental illness disappears when other characteristics of family and work are taken into account. *Hypothesis 3a* therefore needs to be rejected. *Hypothesis 3b* also needs to be rejected. The effect of the time spend on household duties is negative, indicating more mental illness. Although this is in line with our proposition, the parameter fails to reach significance. Possibly, not the actual amount of time spent on household duties and child care matter for one's mental health, but the allocation of household labour between partners: who seems mainly responsible, and the perceived equity in household labour between partners (Glass et al. 1994).

As for the impact of the partner it can be seen that -just as we reported in earlier chapters- having a partner protects people from mental illness. If we consider the partner's work schedule, it can be seen that the effect of having a partner with a part-time job is positive for one's mental health and the effect of a partner who works full-time is negative, indicating a decrease in mental health. Although these effects are in accordance with our hypothesis, they fail to reach significance. Therefore, *hypothesis 4a* needs to be rejected. The time spent on household labour by the partner does seem beneficial to one's mental health. People whose partner spends more time on household duties report better mental health. This means that having a partner who spends less time on household duties induces mental illness. So, *hypothesis 4b* cannot be rejected. This study thereby supports earlier findings by Geurts et al. (1999) and Roxburgh (1997). So, although having a partner protects from mental illness, having a partner who is less supportive within the household may induce mental illness. Having a partner is a valuable resource, but at the same time may also threaten the mental health of the partner's ego, depending on the partners' resources. To summarize, aspects of work that contribute to good mental health are: having

Table 5.1 *Unstandardized regression coefficients of work and family characteristics on mental health (model I through III), work-to-family conflict (model IV) and family-to-work conflict (model V)(N=674)*

	Mental health			WFC	FWC
Model	Model I	Model II	Model III	Model IV	Model V
Constant	63.81	65.97	77.19	.78	1.35
Work characteristics					
Work schedule (working < than 21 hours = ref)					
working 21 thru 36 hours a week	1.18	.87	**3.21***	**.25****	**.12****
working more than 36 hours a week	**2.91**~	-.74	**6.12****	**.46****	**.14****
Decisional authority	**.72***	**.69***	**.47**~	**-.02***	**-.02****
Job pressure	-.29	**-.33**~	.19	**.07****	**.01***
Skill discretion	**1.92****	**1.96****	**1.91****	.03	**-.02**~
Family characteristics					
Having children (no children = ref)					
children 0 - 4 years	-.86	-3.08	-1.14	-.05	.03
children 5 – 18 years	.58	-.93	.99	.01	**.10***
children >18 years living at home or not	.52	-2.94	.67	.06	.02
Time spent on household duties by respondent	-.02	-.01	.02	.00	**.01***
Not having a partner (partner = ref)	**-4.00****	-4.43	**-4.02****	-.07	**.08**~
Work schedule of partner (not having a job = ref)					
working less than 21 hours a week	1.14	1.18	.40	-.04	**-.08**~
working 21 thru 36 hours a week	.96	1.11	.86	.04	**-.08**~
working more than 36 hours a week	-.73	-.74	-.44	.06	-.02
Time spent on household duties by partner	**.06***	**.07***	**.07***	.00	-.00
Control variables					
Gender (male = ref)					
female	2.00	**2.29**~	1.10	-.03	**-.08***
Psychiatric history respondent					
treated for mental complaints	**-8.20****	**-7.92****	**-6.36****	**.12***	**.20****
Intermediating variables					
Work-to-family conflict			**-5.74****		
Family-to-work conflict			**-6.61****		
Interaction-terms					
Work schedule X having children					
work 21 - 36 hours x children 0 - 4 years		3.42			
work 21- 36 hours x children 5 - 18 years		-.40			
work 21 - 36 hours x children > 18 years		-.12			
work > 36 hours x children 0 - 4 years		2.86			
work > 36 hours x children 5 - 18 years		2.46			
work > 36 hours x children > 18 years		**7.65**~			
Work schedule X having a partner					
work 21 - 36 hours x not having a partner		-1.98			
work > 36 hours x not having a partner		2.86			
Having children X having a partner					
children 0 - 4 years x not having a partner		**-20.78***			
children 5 - 18 years x not having a partner		5.17			
children > 18 years x not having a partner		-.67			
Adjusted R^2	.13	.14	.24	.22	.08

Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)

a substantial job, which entails a variety in skills and provides opportunity to control over one's proceedings. As for family characteristics, the contribution of the partner to the household seems decisive for one's mental health. To conclude on which of these characteristics are most decisive for one's mental health we look at the standardized regression coefficients (see Appendix D.5). It can be seen that having a substantial job seems best to protect from mental illness followed by the skill discretion of one's job. Somewhat less decisive, but still relevant is having a partner and the contribution of the partner to household labour. Last, we find the decisional authority in one's work. It seems that work characteristics are more important for one's mental health than family characteristics.

Interaction between work and family characteristics

To test hypotheses on interaction between social roles and mental health (*hypotheses 5* through *7*) we added interaction terms as can be seen in model II. Figures 5.2, 5.3 and 5.4 show the mental health scores of categories of people with different combinations of social roles based on the unstandardized (controlled) regression coefficients of model II, Table 5.1.

Figure 5.2 *Interaction between work schedule and having children*

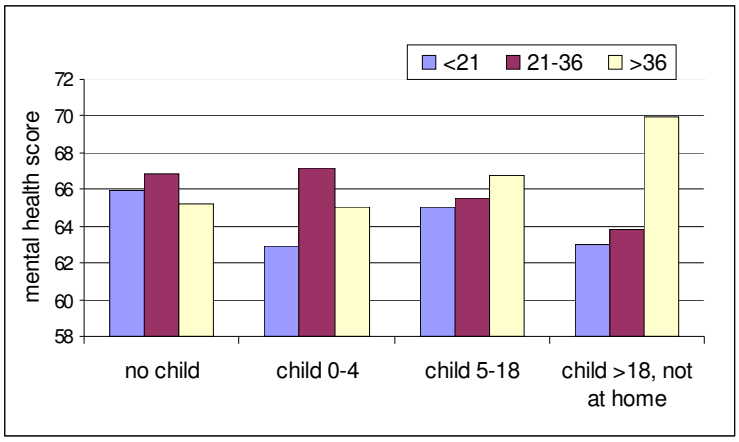


Figure 5.2 shows that the effect of employment on one's mental health seems to vary, dependent on the age of the youngest child living at home. When children are between the age of 0 and 4, it seems better for one's mental health to have a large part-time job than a full-time job, although the difference is not significant, which could be the result of a small number of observations. Young children need more care, which may interfere with having a full-time job. As children get older, it seems better for one's mental health to have a more substantial job. Having a full-time job is especially beneficial for the mental health of people with adult children. People with adult children and full-time jobs report significantly less mental illness than people without children. For people with no children or children between 5-18 years old, the mental health differences between having a part-time job –either small or large- and a full-time job are smallest. These findings seem consistent with other studies

(e.g. Fokkema 2002). *Hypothesis 5* cannot be rejected: for people with adult children the effect of employment significantly differs by their work schedule.

Figure 5.3 *Interaction between work schedule and having a partner*

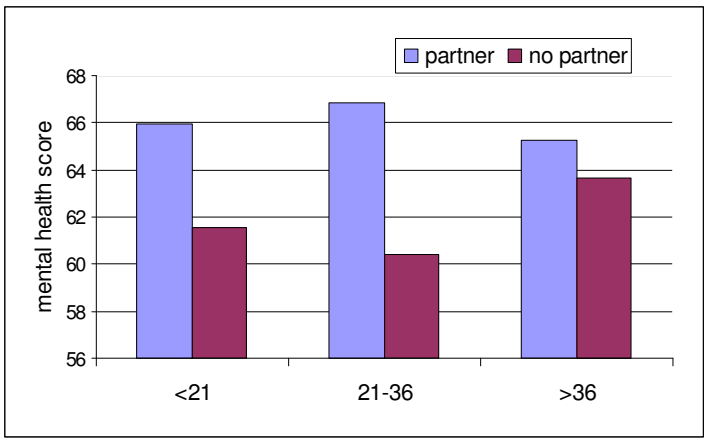


Figure 5.3 shows the effect of work schedule for the mental health of people with and people without a partner. This figure shows that single people with part-time jobs show lower mental health compared to people with part-time jobs and a partner, and that mental health differences are smallest between people with or without a partner when people have a full-time job. Yet, none of these differences seem significant. So, the effect of works schedule on mental illness does not vary depending on whether one has partner. *Hypothesis 6* therefore needs to be rejected.

Figure 5.4 *Interaction between having children and a partner*

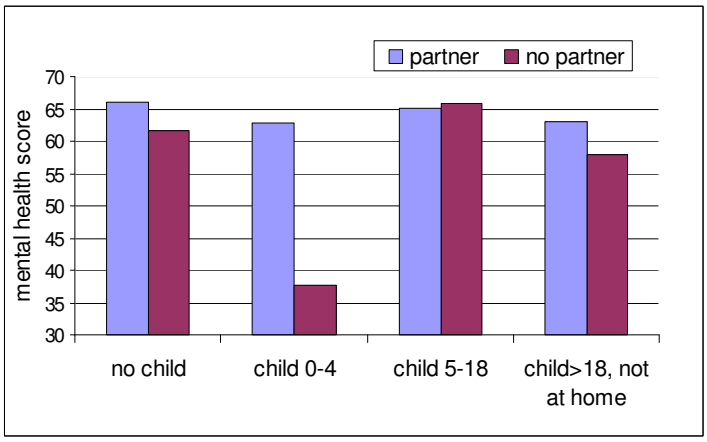


Figure 5.4 shows the effect of having children for the mental health of people with and without a partner. It shows that single parents with children in the age between 0 and 4

suffer significantly more from mental illness compared to parents with children in the same age, but who do have a partner. No significant differences were found between people without children and single parents with children in the age between 5 and 18 or older children. As children are young and do not go to school, it seems very demanding to be a single parent. As children go to school, demands seem to decrease which benefits the parents' mental health. So, having a partner around reduces the demands of parenting, specifically with pre-school children. Therefore, *hypothesis 7* cannot be rejected.

Intermediating variables: perceived work-to-family conflict, family-to-work conflict

In order for work-family conflict to be able to explain the relationship between work and/or family characteristics and mental health, work and family characteristics need to be associated with feelings of work-family conflict. As we include work-to-family conflict and family-to-work conflict into our model (model III), the total variance explained increases from .13 to .24, meaning that these two variables on their own contribute to the explanation of variation in mental health scores. Perceived work-to-family conflict and family-to-work conflict both are negatively related to mental health. People who feel that their work interferes with their family situation or their family situation interferes with their work report more mental illness. This finding is consistent with findings reported by other studies such as Frone and colleagues (1992) and Kinnunen and colleagues (2004). Work-family conflict is considered an antecedent of mental illness. This leaves us with the question whether work-family conflict also mediates the relationship between certain characteristics of work and family and mental illness? The answer to this question seems mixed.

As stated above, the perception of work-family conflict suppresses the relationship between work schedule and mental illness. Working more hours a week directly affects one's mental health in a positive manner. But working more hours also induces more work-family conflict, which in turn affects one's mental health negatively. A similar mechanism can be seen by not having a partner. Not having a partner negatively affects one's mental health. At the same time, the absence of a partner induces less family-to-work conflict, which in turn is positive for one's mental health. In both cases the perceptions of conflict between work and family can not explain the reported relationship with mental illness, but rather seem to suppress these relationships. In this case, *hypothesis 8* needs to be rejected. On the other hand, the effect of decisional authority is partly explained by work-family conflict. In this case, *hypothesis 8* cannot be rejected. People with more control in their work feel less conflict between work and family and because of that report less mental illness. People who have been treated for mental complaints also report more mental illness, in part due to more conflict between work and family. This indicates that people who have been treated for mental complaints may have more difficulties to successfully combine work and family.

If and to what extent characteristics of work and family are related to feelings of work-family conflict can be seen in model IV and V. Antecedents of work-to-family conflict are mainly aspects of one's work situation: working more hours per week, less decisional authority and more job pressure and whether one has been treated for mental complaints. Especially work schedule and job pressure are important predictors for work-to-family conflict (see Appendix D.5). Antecedents of family-to-work conflict can be found in both

work and family domain: working more hours per week, less decisional authority and more job pressure, less skill discretion, but also having children in the age between 5 and 18 years, not having a partner, the partners work schedule, the time one spent on household duties and whether one has been treated for mental complaints. The claim by Frone and colleagues (1992) that antecedents of work-to-family conflict can be found mainly in the work domain, and antecedents of family-to-work conflict mainly in the family-domain is only partially reproduced by our findings. Furthermore, family-to-work conflict seems more difficult to predict. Although a larger number of antecedents have been identified compared to work-to-family conflict, these predictors explain a smaller proportion of the variance of family-to-work conflict.

5.6 Conclusions and discussion

In this chapter we studied the conditions of work and family as to how they are related to mental illness. We focussed on the interface between work and family to examine how (higher) levels of different types of resources are interrelated. If we look at work characteristics that protect or harm one's mental health, it can be seen that having a substantial job seems to protect people from mental illness. Although less healthy people in part seem to select themselves into smaller jobs, working more hours a week promotes one's mental health. Of all the characteristics of both work and family we studied, a full-time job seemed most decisive for one's mental health. Having a full-time job therefore is considered a valuable resource. Having a full-time job also means a higher contribution to the household income, which leads to more power within the relationship and more equality in household duties between partners (Glass & Fujimoto 1994; Van der Lippe 1993; Menaghan & Parcel 1990; Rosenfield 1999). Especially women may benefit therefore from a full-time job. Other work characteristics that seem to promote one's mental health were high decisional authority and high skill discretion. Job pressure was not found to be related to mental illness. So, having a job seems to protect one from mental illness, but some jobs protect better than others. Jobs with low authority and self-directedness over one's proceedings and low variety in skills put people at risk of mental illness.

The impact of family on one's mental health seems to a large extent determined by the presence of a partner and his/hers contribution to the household. The actual time the partner is at home thereby does not seem to matter, but rather the partners' contribution to household labour and child care. Whether or not the partner works long hours, having a partner who contributes less to the household duties seems to induce mental illness by the partner's ego. This finding is consistent with findings reported by Roxburgh (1997) and Geurts et al. (1999). One's own time spent on household labour and child care was not found to induce mental illness, nor does having young children at home. Thus, having a (supportive) partner seems a more valuable resource than having children.

Table 5.2 *Overview of hypotheses on work-family interface and support*

Hypotheses		Support
Role accumulation hypothesis (SPF-theory)		
H1	more social roles, better mental health	in accordance with hypothesis
Role stress hypothesis		
H2a	working more hours	rejected
H2b	higher job pressure	rejected
H2c	lower decisional authority	in accordance with hypothesis
H2d	lower skill discretion	in accordance with hypothesis
H3a	younger children living in the household	rejected
H3b	spending more time on household duties	rejected
H4a	partner who works more hours	rejected
H4b	partner who spend less time on household duties	in accordance with hypothesis
Interaction hypotheses		
H5	effect of employment varies by whether one has children	in accordance with hypothesis
H6	effect of employment varies by whether one has a partner	rejected
H7	effect of parenthood varies by whether one has a partner	in accordance with hypothesis
Perceptions on work-family interface		
H8	perception of work-family conflict	partly rejected, partly in accordance with hypothesis

If we look at combining work and family, it can be seen that having a full-time job in combination with having children is not harmful for one's mental health. Especially the mental health of people with adult children -either living at home or not- benefits from having a substantial job. People with adult children who work full-time reported better mental health than people with adult children who work part-time. A full-time job therefore seems an efficient strategy to overcome the empty-nest syndrome. People with pre-school children who work full-time did report slightly more mental illness compared to people with young children and part-time jobs, but these differences were not significant. Having pre-school children in the age between 0 and 4, however, does seem harmful for single parents. When children are young, it seems very demanding to be a single parent. As children go to school, demands seem to decrease which benefits the parents' mental health. The effect of work schedule on people's mental health did not vary by having a partner. One's mental health seems to benefit from having a substantial job, whether people have or do not have a partner. So, there seems no additional health benefit from both having a partner and a substantial job, which indicates that these resources may compensate for each other. Our conclusions on the differential effects of work, parenting and partners need to be treated with care. Because of a lack of statistical power due to limited number of observations, we

cannot conclude firmly from these analyses. A larger sample would provide a more definite test of our findings.

Besides the question which of the characteristics in work and family put people at risk of mental illness, we studied whether the relationship between characteristics in work and family and mental illness can be explained by perceptions of conflict between work and family. Our findings show that work-to-family conflict and family-to-work conflict can be considered antecedents of mental illness. People who find it more difficult to balance between work and family report more mental illness. The perception of work-to-family conflict seems brought upon mainly by aspects of work, whereas the perception of family-to-work conflict was brought upon by aspects of both work and family. The reported relationship between work and family characteristics and mental illness could at best only partially be explained by the perception of work-family conflict. In some cases we found suppressing effects of work-family conflict, but none of the reported relationships could be fully interpreted by perceived work-family conflict.

Our results on combing resources provided support for both of the perspectives we tested in this chapter. In favour of the accumulation perspective, which is in line with the Social Production Function theory, was our finding that a substantial job and having a partner both increase mental health. Although, there seem no additional mental health effect of having a partner once people have a substantial job. As for being a parent, having a partner seems especially beneficial for one's mental health when having pre-school children, whereas having a full-time job seems beneficial for one's mental health when having adult children. The mental health of parents of school-going children in the age between 5 and 18 does not seem to gain much by either having a partner or a full-time job. Mental health differences between people with school-going children with or without a partner, with a part-time or full-time job were small and non-significant. This latter finding contradicts the accumulation perspective.

In line with the stress role hypothesis were our findings that having jobs with low decisional authority and low skill discretion, and having a partner who contributes less to the household duties induces mental illness. So, more social roles do not necessarily increase mental health, it depends on the characteristics of the social role. Focus should therefore be on more qualitative aspect of social roles. For some people combining work and family seems more beneficial for their mental health than for others, depending on the characteristics of one's work and family situation. The image of combining work and family as a burden certainly needs to be adjusted.

As for the limitations of this analysis, we did not study possible gender differences. Relative small numbers limited the possibility of separate analyses for men and women. Our result showed that some resources seem more valuable than others. Possible gender differences may play a role here. Some resources may be more protective for women's mental health than for men's. Combining work and family may also be more burdensome for women than for men, as some studies have already suggested (Nordenmark 2002). This may also have to do with the meaning men and women attach to occupying certain roles (Simon 1995). Future research should therefore focus more on the potential different vulnerability of men and women.

6 Conclusions and discussion

6.1 Introduction

In the present study we examined the relationship between people's level of resources and mental illness. A great deal of studies from several research traditions have dealt with the question which categories of people are at risk to suffer from mental illness and why. In general, these studies have reported that mental illness is not distributed randomly throughout society, but rather differs depending on one's social position in society. Despite these consistent findings, there a great differences between these studies: the focus on different determinants, mental illness measures, use of different samples and methodologies. These theoretical and methodological differences stem from the variety of disciplines that have studied mental illness, all handling a more or less specific scope on what constitutes mental illness. As a result, there has been little exchange between them (House 2002; De Ridder 1990; Thoits 1999). Each of these research traditions has generated insights on determinants of mental illness, but they have failed to benefit from each others' theoretical progress or empirical findings. Furthermore, they have failed to systematically control for factors that have been found relevant for one's mental health. In order to make progress in the study of mental illness it seems necessary to study determinants of mental illness in relation to one another to gain insight in the conditions that make people mentally ill, and to conclude on the relative weight of factors. The aim of this study was to improve on former studies by examining different factors simultaneously, thus applying a multifactorial social approach to the study of mental illness. As a theoretical framework we used the Social Production Function theory, which offered the possibility to synthesize several approaches to mental illness. This general framework encompassed a wide range of factors which allowed a more systematic theoretical elaboration of propositions and hypotheses on people's social positions and mental illness. Moreover, SPF-theory was elaborated by applying three perspectives to study mental illness: a contextual perspective, a dynamic or life course perspective, and an explanatory perspective. By doing so, we formulated new questions and also more thoroughly answered old questions. These

questions were answered with large-scale data representative of the general Dutch population.

In the empirical chapters of this study (Chapters 2, 3 and 4) we focussed on socioeconomic, social and cultural resources separately, to examine more explicitly the impact of the partner's resources, childhood conditions, over time changes in the individual's resources, and subjective perceptions as related to mental illness. In Chapter 5 we examined the combination of having higher levels of economic and social resources for one's mental health, more specifically if combining work and family puts people at risk of mental illness. In this final chapter we will summarize and discuss the main findings of this study. Also, we will present an integral model in which all different types of resources, that is socioeconomic, social, cultural and personal resources are tested simultaneously in order to examine the relative weight of each of these resources. Which are decisive determinants of mental illness? This book ends with a number of suggestions for further research.

6.2 Overlooking the impact of different resources on mental illness: an integral model

In the chapters on socioeconomic, social and cultural resources we found support for our general proposition that having lower levels of resources may induce mental illness. People with lower socioeconomic, social and cultural resources suffered more from mental illness compared to people with higher resources. However, in some cases also people with higher levels of resources reported more mental illness. These findings indicate that studying different types of resources separately may identify relevant factors for mental illness but they do not tell the whole story. In order to gain insight into the social circumstances that make people vulnerable to mental illness, it seems very important to study different types of resources *simultaneously* (Barnett 1998; Tausig, Michello & Subedi 1999). Lower or decreasing levels of a certain type of resources may be compensated for by other resources, thereby dissolving the potential negative impact for one's mental health. However, some resources may lack good alternatives (Champion & Power 1995). The more decisive a certain type of resource is for one's mental health, the more difficult it may be to compensate for having lower levels of that particular resource. So, not all resources may be compensated for by other resources. Although the idea of substituting resources is incorporated into Social Production Function theory, the possibility that certain resources may be more difficult to replace than others is not recognized by SPF-theory. To establish the relative weight of each of the relevant resources and to conclude on decisive determinants for mental illness we will conduct analyses in which socioeconomic, social, cultural and personal resources are included simultaneously. Based on the results of Chapters 2, 3 and 4 we selected decisive socioeconomic, social, cultural and personal resources that were included into our integral model. The selection of these resources is based on both theoretical and statistical criteria. First, resources were selected which showed a direct significant impact on mental illness when accounting for personal resources. In the case of the partner's social class, no category showed significant impact on one's mental health on its own compared to the reference category (see Chapter 2). However, the

joint effect of all categories of these characteristics showed significant impact on mental illness. The last also holds for frequency of prayer. Also, in some cases (e.g., income, intragenerational mobility, changes in church attendance) resources showed no significant impact on people's mental health until intermediating perceptions were included into the model. In both cases these resources were added to our model. Next, we added (non-significant) 'innovative' resources into our model such as partner resources (level of education), parental resources during childhood and individual resources indicative of over time changes. These resources did not have a direct significant effect in the separate chapters, but may 'behave' differently when all different types of resources are examined at the same time. However, these resources again did not show a direct significant impact on people's mental health. Therefore, they were excluded from our final model. The impact of different resources on mental illness was tested in several steps by multiple regression analyses, similar to previous chapters. The results of our analyses are presented in Table 6.1.

Table 6.1 shows the unstandardized regression coefficients for five models. In the first model socioeconomic, social and cultural resources of the individual are related to mental health. In the second model the socioeconomic and cultural resources of the partner are taken into account. Model III considers the impact of over time changing individual resources. In model IV the impact of socioeconomic, social and cultural resources are controlled for by personal resources. Finally, in model V, intermediating subjective perceptions are added to explain the relationship between people's level of resources and mental illness.

Overall, the results of the integral model are rather similar to the models in which we focussed on a certain type of resource. So, resources behave rather similarly when controlling for other types of resources. In some cases, studying socioeconomic, social, cultural and personal resources simultaneously produces insignificant parameters, and thus indicates spurious relationships. Such reported relationships stress the importance to study relevant factors simultaneously.

Socioeconomic resources. Just as in Chapter 2 it can be seen that nearly all social class categories, except for the skilled manual workers and retired people, show a mental health that is worse than the mental health of the reference category, higher professionals. People on welfare and students suffer most from mental illness compared to the reference category, followed by the small proprietors and fulltime housekeepers. So, especially people without a paid job seem to suffer from mental illness. The effect of social class seems unaffected by including personal resources such as personality characteristics or social and cultural resources into our model. In the end, when childhood adversity, one's psychiatric history, personality characteristics, age and subjective perceptions are accounted for (model V), social class still has a direct effect on mental illness. As for income, people with higher income seem to have better mental health. So, people with lower income suffer more from mental illness. However, if personal resources are taken into account (model IV), the direct effect of income on mental health turns non-significant. The effect of income on one's mental health seems due to higher personal resources, notably being an emotionally stable person. People with higher income seem more emotional stable persons and because of

Table 6.1 *Unstandardized regression coefficients of (decreasing) socioeconomic, social, cultural and personal resources on mental health (N=652); Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed)*

Model	Model I	Model II	Model III	Model IV	Model V
Constant	89.21	90.51	91.01	87.99	52.147
Current individual resources					
Social class of respondent (higher professionals = ref)					
lower professionals/ routine non-manual employee	**-4.61***	**-4.42***	**-5.16****	**-4.06***	**-3.04***
small proprietors	**-7.20****	**-7.26 ****	**-7.87****	**-4.90***	**-4.08~**
skilled manual worker	-3.55	-2.63	-3.16	-.62	.67
unskilled manual worker	**-6.49****	**-5.69***	**-6.33***	**-4.61***	**-3.51~**
retired people	-3.38	-4.04	**-4.88~**	-2.58	-.80
students	**-9.55****	**-8.94****	**-10.91***	**-12.88****	**-11.41****
housekeepers	**-7.04****	**-7.08****	**-7.87****	**-4.23~**	**-3.82~**
people on welfare	**-11.85****	**-11.95****	**-13.23****	**-7.73****	**-5.89****
Income	**.41~**	**.46~**	**.49~**	.17	-.32
Marital status (married = ref)					
unmarried, no partner	**-4.92****	**-6.58***	**-5.31~**	**-5.22***	**-6.15****
unmarried, partner	-.98	-.53	.16	-1.37	-1.17
divorced, no partner	-1.78	-3.47	.02	.14	.21
divorced, partner	-2.37	-2.07	.69	2.08	1.69
widowed	-3.30	-4.33	-3.59	**-5.83***	**-8.83****
Gender (male = ref)					
female	**-2.16***	-1.30	-.91	.39	.46
Emotional support	**-.02 ****	**-.02****	**-.02****	**-.01****	**-.01****
Denomination (Re-Reformed = ref)					
Reformed	-3.33	-3.71	-3.73	-2.69	-.94
Roman Catholic	**-4.46***	**-4.96****	**-5.22****	-2.70	-2.36
non-member	**-7.00 ****	**-7.01****	**-7.02****	**-4.24***	-2.69
Frequency of prayer	**-1.68 ****	**-2.02****	**-1.93****	**-1.03~**	-.38

Model	Model I	Model II	Model III	Model IV	Model V
Partner resources					
Social class of partner (higher professionals = ref)					
lower professionals/ routine non-manual employee		-1.40	-1.07	-1.03	-.80
small proprietors		.83	.75	-.90	-1.59
skilled manual worker		**-4.73***	**-4.00~**	-3.09	-2.06
unskilled manual worker		.32	.38	-1.49	-1.15
retired people		2.15	2.67	2.88	3.79
students		-1.42	-.90	.12	-.32
housekeepers		-.13	.37	-.25	.32
people on welfare		-3.52	-2.72	-2.35	-.37
Denomination of partner (same denomination as respondent = ref)					
member of different Christian church		1.79	1.71	.31	-1.07
non-member of Christian church		-1.36	-1.29	-.83	-1.97
Over time changes in individual resources					
Intragenerational mobility (no mobility = ref)					
downward mobility			-.96	-1.43	-.53
upward mobility			-.74	**-1.87~**	**-1.66~**
Ended relationship/divorced (no relationship ended = ref)					
relationship ended within last five years			**-5.34****	**-4.95****	**-4.10****
relationship ended more than five years ago			1.01	.55	-.18
Changes in church attendance (church attendance the same = ref)					
church attendance decreased			-.62	.11	.17
church attendance increased			-2.45	**-3.81***	**-4.31***
Personal resources					
Psychiatric history respondent (never treated = ref)				**-5.65****	**-5.92****
Childhood adversity (no childhood adversity = ref)					
Agreeableness				**1.09***	.47
Emotional stability				**6.70****	**4.77****
Resourcefulness				**1.26****	.70
Age				-.00	.02
Intermediating variables					
Sense of mastery					**1.51****
Perception of socioeconomic insecurity					**-1.50***
Perception of social support					**.39***
Inner-worldly beliefs					1.03
Adjusted R^2	.14	.15	.15	.39	.49

have a better mental health. In Chapter 2 the effect of income turned negative and became significant again once subjective perceptions were included. Here, the effect does become negative once perceptions of mastery, socioeconomic insecurity and support are included into the model, however the parameter stays non-significant (p=.17).

Social resources. If we consider the impact of marital status on mental health, it seems that unmarried people without a partner and widowed people suffer more from mental illness compared to married people (model IV). Unmarried people with a partner and divorced people, either with or without a partner show equally good mental health than married people. Having (had) a partner seems more relevant for one's mental health than formal marital status, since only people without a confiding relationship at the moment seem to suffer more from mental illness. When we look at gender, women first seem more to suffer from mental illness. However, if the socioeconomic and cultural resources of the partner are taken into account in addition to one's own socioeconomic, social and cultural resources, women no longer differ from men. Mental health differences between men and women seem a consequence of differences in socioeconomic and cultural resources of the partner. Monden (2003) also found women's physical health more affected by their partner's educational level than men's physical health. This indicates that partner characteristics may be especially relevant for women's health, more than men's healthIntroducing the partner perspective into the study of mental illness has shed new light on mental health differences between men and women.

Just as in Chapter 3, the effect of emotional support is negative, indicating that people who receive more emotional support report less good mental health. Similar results were reported by Ross and Mirowsky (1989). They found that people who talk to others about their problems show higher levels of depression. There may be several possible reasons why people who receive more emotional support report less good mental health. People who talk to others about their problems may be more willing to report symptoms of mental illness in a survey. Also, the relationship between receiving emotional support and mental health may be misspecified. Receiving a lot of emotional help may indicate already having had mental problems. Accounting for former mental health problems, however, leaves the effect of emotional support unchanged. The use of longitudinal data is necessary to conclude more firmly on this last option. Alternatively, talking to others about one's problems means revealing and expressing one's troubles, uncertainties and failures to other people, which creates awareness and labels one's emotional state of mind, consequently inducing mental illness. This explanation is supported by past research on distress. Pearlin and Schooler (1978) showed that seeking advice increases distress.

Cultural resources. With regard to denomination it seems that being a member of Christian church protects people from mental illness. People who are not integrated into any religious community suffer more from mental illness. In Chapter 4 we found significant mental health differences between members of certain Christian churches. Catholics suffered more from mental illness than the Re-Reformed. When studying socioeconomic, social and cultural resources together, Roman Catholics again suffer more from mental illness compared to the Re-Reformed. However, this seems brought upon by their level of personal resources that is personality characteristics, one's psychiatric history and childhood adversities. In the end, when economic, social, cultural and personal resources are studied

simultaneously, members of Christian churches do not differ from each other, mental health wise. It seems more important for one's mental health to be a member of a Christian church than which particular church this involves. As for prayer, people who pray more often suffer more from mental illness. In Chapter 4 we found no direct impact of prayer on people's mental health. So, studying different types of resources together seems especially relevant in understanding the impact of cultural resources on people's mental health. As for the interpretation of this finding, prayer may be an alternative coping strategy to deal with difficulties in life, just as talking to others about one's problems is. In both cases it means that people acknowledge having difficulties. Again, such awareness may induce mental illness. Alternatively, the relationship between prayer and mental illness may be misspecified. However, when former mental health problems are accounted for, the effect of prayer decreases, but remains significant. So, only in part do people pray more often because they suffer from mental illness. People who pray more often also seem to suffer more from mental illness because their perceptions on their social position in society.

Partner's resources. In Chapter 4, having a partner who was not integrated into a Christian religious community was found negatively related to an individual's mental health. In this integral model having a partner who is not integrated into a religious community again is negatively related to one's mental health, however the parameter is non-significant. So, when different types of resources are examined simultaneously, the cultural resources of the partner do not seem to affect the individuals' mental health. The individual's cultural resources seem more important to one's mental health than the partner's cultural resources. As for the social class of the partner, the effect of having a partner who is a skilled manual worker is negative related to the partner's ego mental health compared to having a partner with higher social class (model I). When accounting for the individual's personal resources, the effect of having a skilled manual working partner decreases and turns non-significant. In Chapter 2 on socioeconomic resources we found a positive effect on people's mental health of having a housekeeping partner. Here, such an effect is not present. Overall, it seems more important to have a partner than having a partner with higher socioeconomic or cultural resources.

Decreasing resources. According to SPF-theory, people who face decreasing resources suffer more from mental illness. As for ending a lasting relationship, this actually is the case. People who recently divorced or ended a long lasting relationship suffer more from mental illness. Ending a relationship seems a traumatic event with severe consequences for several spheres of life, one's mental health being one of them. However, the negative consequences of divorce for one's mental health seem mainly short-term. People who got divorced or ended a lasting relationship less recently do not suffer more from mental illness. Meertens (2004) reported similar findings on people who experienced a (recent) decrease of social resources on depressive symptoms. So, people who experience a loss of social resources, in the long run seem able to compensate for their losses. As for changes in socioeconomic resources, people who experienced upward mobility in time seem to suffer more from mental illness compared to people who have remained stable, just as we reported in Chapter 2. People who experienced downward mobility do not suffer more from mental illness compared to people who have remained stable over time. Although the effect of downward mobility is negative, it does not reach significance. So remarkably, people whose

socioeconomic resources increased during the life course suffer more from mental illness than people whose resources stayed the same. The effect increases and becomes significant when adding personal resources into our model. So, the reported relationship seems suppressed by these personal resources. Only a small part of the relationship can be explained by the subjective perceptions of mastery, socioeconomic insecurity and social support. Changes in cultural resources show a rather similar pattern when adding personal resources. People whose church attendance increased since childhood suffer more from mental illness compared to people whose church attendance has stayed the same. Jansen (2002b) found that religiosity changed during the life course as a result of people's choices in family formation. After the birth of a child, people's church attendance often seemed to increase. These findings on people whose socioeconomic and cultural resources have increased during the life course need further investigation.

Personal resources. People who have been treated for mental complaints at least one time in their life suffer more from mental illness, just as we reported in previous chapters. As for childhood adversities, people who faced adverse conditions during childhood did not seem to suffer more from mental illness. Possibly, facing childhood adversity may indirectly affect one's mental health through other factors. Previous results showed that not all of the five distinguished personality characteristics were related to mental health. Examining socioeconomic, social and cultural resources simultaneously produces the same results. Again, only agreeableness, emotional stability and resourcefulness seem directly related to mental health; these personality characteristics protect people from mental illness. The impact of the majority of the sociological resources remains relatively unchanged by incorporating personality characteristics into the model. So, these resources both cover different aspects of one's mental health. As for age, in the separate chapters on socioeconomic, social and cultural factors, we found increasing age to be associated with better mental health. However, when all different types of resources are examined simultaneously, age does not show such an effect. The relationship between age and mental health seems brought upon by other resources. As people get older they tend to gain more socioeconomic, social and cultural resources, which in turn protects them from mental illness.

Intermediating subjective perceptions. Just as in the chapters on the impact of different types of resources, subjective perceptions contribute on their own to mental health. Feelings of control over one's life and social support are associated with better mental health, while the perception of socioeconomic insecurity is associated with mental illness. The perception of inner-worldly beliefs on existential matters is not associated with mental illness. When studying different types of resources simultaneously, the parameter fails to reach significance. Therefore, this variable can not contribute to the interpretation of why people with lower resources suffer more from mental illness. When including perceptions of mastery, socioeconomic insecurity and social support into our model, the effects of not being integrated into a Christian religious community, frequency of prayer and personality characteristics as agreeableness and resourcefulness decrease and turn non-significant. This indicates that the impact of cultural resources and two out of three personality characteristics can be fully explained by the subjective perceptions people have. Non-members of Christian church, people who pray more often suffer more from mental

illness because they perceive their socioeconomic situation as more worrying, they feel less control over their lives and feel less socially supported. As opposed to people with high self-esteem, or who think of themselves as resourceful, they are in better mental health because they worry less about their socioeconomic situation, feel more in control of their lives and feel more socially supported. The effects of social class, changes in socioeconomic and social resources and being an emotional stable person have decreased by controlling for subjective perceptions of mastery, social support, socioeconomic insecurity and inner-worldly beliefs, but parameters stayed significant. So, part of the impact on mental illness is explained by these subjective perceptions. People with lower social class, or who experience changes in their level of socioeconomic or social resources suffer more from mental illness in part because they perceive their financial situation as more worrying, feel less in control of their own life and feel less social support. As for the unmarried, widowed, people whose church attendance increased or who have been treated for mental complaints including the four explanatory variables into our model leads to stronger negative effects. So, the negative effects of these variables for one's mental health cannot be explained by perceptions of mastery, socioeconomic insecurity, or social support. Overall, the explanatory qualities of perceptions of socioeconomic insecurity, mastery and social support seem fairly satisfactory, in support of our hypotheses.

6.3 Relative weight of different resources

So far we examined the impact of socioeconomic, social, cultural and personal resources simultaneously, thereby indicating relevant resources that -either positively or negatively- affect people's mental health. The question on the decisiveness of relevant resources for people's mental health remains unanswered. Table 6.2 shows the direct standardized effects of socioeconomic, social, cultural and personal resources, and subjective perceptions on mental health.

If we were to order all relevant factors according to their relative weight based on their direct impact[17] on mental health, emotional stability and the perception of mastery would be at the top, just as we reported in previous chapters. Being an emotional stable person and feeling in control over one's life seem about equally decisive for mental health; they both protect people from suffering from mental illness. Because of its relative weight and the presumed stability of personality characteristics (Sanderman& Ranchor 1994), being an emotional stable person seems a valuable individual resource, which may lack good alternatives. Marital status, social class and psychiatric history also seem important factors in trying to understand which social categories of people are more likely to suffer from mental illness, but half as important as being an emotionally stable personality or the sense of having control over one's own life. Having a partner and belonging to a higher

[17] Indirect effects of the variables shown in table 6.2 on mental health were very small. So, for most variables the total impact on mental health is on account for the direct effects. Only income and being an emotional stable personality showed relevant indirect effects. For income the indirect effect (p=.07) was positive and even larger than the direct effect (p=-.05). The indirect effect of emotional stability is about three times smaller than the direct effect on mental health.

Table 6.2 *Direct standardized effect of different types of resources on mental health*

	Mental health
Social class of respondent (higher professionals = ref)	***[.15]***
lower professionals/ routine non-manual employee	**-.11***
small proprietors	**-.07~**
skilled manual worker	.01
unskilled manual worker	**-.07~**
retired people	-.01
students	**-.10****
housekeepers	**-.08~**
people on welfare	**-.11****
Income	-.05
Marital status (married = ref)	***[.16]***
unmarried, no partner	**-.13****
unmarried, partner	-.03
divorced, no partner	.00
divorced, partner	.02
widowed	**-.10****
Gender (male = ref)	.02
Emotional support	**-.08****
Denomination (Re-Reformed = ref)	*[.06]*
Reformed	-.07
Roman Catholics	-.02
non-member	-.10
Frequency of prayer	-.03
Social class of partner (higher professionals = ref)	*[.09]*
lower professionals/ routine non-manual employee	-.03
small proprietors	-.02
skilled manual worker	-.04
unskilled manual worker	-.02
retired people	.06
students	-.01
housekeepers	.01
people on welfare	-.01
Denomination of partner (same denomination as respondent = ref)	*[.07]*
non-member of Christian church	-.07
member of different Christian church	-.02
Intragenerational mobility (no mobility =ref)	***[.06]***
downward mobility	-.01
upward mobility	**-.06~**
Ended relationship/divorced (no relationship ended =ref)	***[.09]***
relationship ended within last five years	**-.09****
relationship ended more than five years ago	-.01
Changes in church attendance (stayed the same =ref)	***[.07]***
church attendance decreased	.01
church attendance increased	**-.07***

Table 6.2 …*Continued*

	Mental health
Psychiatric history respondent (never treated=ref)	**-.15****
Childhood adversity (no childhood adversity =ref)	-.03
Agreeableness	.03
Emotional stability	**.33****
Resourcefulness	.05
Age	.02
Mastery	**.31****
Perception of socioeconomic insecurity	**-.07***
Social support	**.06***
Inner-worldly beliefs	.05

Parameter estimates in bold figures are significant **p<.01; *p<.05; ~p<.10 (two-tailed). Compound variables [between brackets] were created for categorical variables by using unstandardized regression parameters.

social class protects people from mental illness, whereas being treated for mental complaints during the life course makes people vulnerable to suffer from mental illness later on in their lives. Based on their relative weight, having a partner, higher social class or being treated for mental complaints during the life course may compensate for each other. Less decisive, but still significant are ending a lasting relationship and the degree of emotional support; both seem risk factors to people's mental health. Changes in church attendance, intragenerational mobility (in social class) and perceptions of socioeconomic insecurity and social support show a more moderate impact on mental health. Compared to social class and marital status of the respondent, theses changes in resources and subjective perceptions are about half as important for people's mental health. For all categorical variables goes that there are substantial differences between categories, however, here we are interested in the overall (direct) impact of variables on mental health. The cultural resources seem least important for people's mental health, compared to socioeconomic, social and personal resources. So, lower or decreasing levels of cultural resources may be (easily) compensated for by other resources. Other resources in this model that did not show a direct impact on mental illness were: the socioeconomic and cultural resources of the partner, having experienced childhood adversity, being an agreeable or resourceful personality and age.

Overall, there a great differences in the relative weight of different resources. For instance, certain personality characteristics do not affect people's mental health directly, while others seem most important. However, socioeconomic, social, cultural and personal resources all seemed important to people's mental health to a certain degree. The broad range of factors that have a direct impact on people's mental illness shows that understanding mental illness is complex and that a multifactorial approach is in order.

6.4 Answers to research questions

In the first chapter we formulated eight research questions. In this section we will discuss our main findings and formulate answers to these research questions. The first research question focussed on the impact of current socioeconomic, social and cultural resources of the individual on one's mental health. It was formulated as follows:

1. *To what extent do people's lower levels of current socioeconomic, social, and cultural resources contribute to mental illness?*

Our general proposition derived from Social Production Function theory was that people with lower socioeconomic, social, and cultural resources suffer more from mental illness compared to people with higher resources. In Chapters 2, 3 and 4 we studied socioeconomic, social and cultural resources separately, controlling for personal resources. In the first part of this chapter we studied all of these resources simultaneously. These findings show that in general people with lower socioeconomic, social, and cultural resources suffer more from mental illness. People with lower social class suffer more from mental illness than people with higher social class. Except for the skilled manual workers en retired people, who showed equally good mental health compared to people with higher social class. Especially people without a job seem vulnerable to mental illness: people on welfare, housekeepers and students. Although having a job protects people from mental illness, it seems necessary to also look at work characteristics, since some jobs protect better than others. Having a part time job (<21 hours), or a job with low decisional authority and self-directedness over one's proceedings and low variety in skills put people at risk for mental illness. Especially having a substantial job seems a valuable resource for good mental health. Higher job pressure was not associated with more mental illness (Chapter 5). Also, unmarried people who at the moment were not involved in a confiding relationship and widowed people suffered more from mental illness. It seemed important to distinguish –in addition to formal marital status- whether one is involved into a confiding relationship in order to understand who is at risk to suffer from mental illness, since notably non-married people without a partner suffer more from mental illness. Unmarried and divorced people with a partner reported equally good mental health than married people. Last, people who do not belong to a Christian church suffered more from mental illness compared to people who were a member of the Re-Reformed church. Simultaneously testing all different types of resources showed no mental health differences between members of different Christian churches. It seems more important to be integrated into a religious community than to be integrated into a particularly religious community.

Yet, not all resources were found related to mental illness. Educational attainment (Chapter 2), degree of received instrumental support, the size of one's supportive network (Chapter 3), church attendance and having spiritual experiences (Chapter 4), having (young) children or the time spend on household duties (Chapter 5) were not found directly related to mental health, based on multivariate analysis. Having higher income at first was associated with better mental health. However, simultaneously testing different types of resources showed that the relation between income and mental illness seems spurious,

brought upon by personality characteristics. The same holds for people's social participation in society. Also, in some cases people with higher resources suffered more from mental illness. That was the case for people prayed more often and who received more emotional support. People who received more emotional support did feel less in control of their lives, which was associated with more mental illness, but they also did feel more socially supported, which protects people from mental illness. These findings cannot be explained from the perspective of SPF-theory, and thus raise new questions.

Our second research question dealt with the impact of the partner's resources on the individual's mental health. Within sociology, more specifically social stratification research, there is a long tradition of studying the effect of the partner's characteristics on the individual. Within the study of mental illness, however, the impact of the partner so far has been fairly overlooked. In this study we tried to formulate new hypotheses in the tradition of social stratification by applying a partner perspective to study the impact of socioeconomic and cultural resources on the individual's mental health. Our second research question was formulated as follows:

2. *To what extent do lower partner resources contribute to individual mental illness in addition to one's own current resources?*

Our general hypothesis stated that people with a partner with lower resources suffered more from mental illness than people with a partner with higher resources, in addition to lower individual resources. Our findings show that having a partner seems a valuable resource, which protects people from mental illness. However, the question whether the partner's resources contribute to the individual's mental health seems only moderately supported by our findings. Having a partner seems more important than having a partner with more socioeconomic or cultural resources. In Chapter 2 we found that having a partner with higher social class or higher educational attainment did not show direct impact on people's mental health, when individuals' socioeconomic resources were accounted for. Also, having a partner with a different –either higher or lower- social class than the partner's ego did not harm people's mental health (Chapter 2). A possible explanation for these results may be found in social class and educational homogeneity between partners. The individuals' social class matters for one's mental health and because people tend to marry within similar social classes and educational levels (Hendrickx, Uunk & Smits 1995), the additional effect of the socioeconomic resources of the partner may be relatively small. Monden (2003) did find significant additional effects of the partner's educational level on one's physical health, but he also showed that one's own educational level seems more important than the partner's educational level.

In Chapter 4 we focussed on the impact of the partner's cultural resources on the individual's mental health. There, our results showed the partner's cultural resources to be relevant for people's mental health. Having a partner who is not integrated into a Christian church was found a threat to one's mental health. A partner who is a member of a different denomination than the partner's ego did not harm the ego's mental health. When studying all different types of resources simultaneously, the negative effect on one's mental health of

having a partner who is not integrated into a religious community was no longer present (Chapter 6). The relationship seems thus brought on by the individuals' socioeconomic and social resources. These resources seem more decisive than the cultural resources of the individual and his partner.

In Chapter 5 we studied partner characteristics within the framework of the work-family interface. Our findings show that the contribution of the partner to household labour and child care was related to people's mental health. The actual amount of time the partner is present at the home thereby does not matter for people's mental health, but rather the partner's contribution to household labour and child care. Having a partner who contributes less to household duties induces mental illness by the partner's ego. So, having a partner seems to protect people from mental illness, but it may also threaten people's mental health, depending on the contribution of the partner to the household.

Last, introducing the partner perspective into the study of mental illness did shed new light on the reported mental health differences between men and women. Testing the effects of different types of resources simultaneously showed that mental health differences between men and women seem a consequence of differences in socioeconomic and cultural resources of the partner. So, the individual's primary social context seems important in understanding mental health differences, especially for women.

Our third research question dealt with the impact of childhood living conditions on adult mental health. In this book we applied a life course perspective to study the impact of socioeconomic and cultural resources on mental illness. Such a life course perspective states that the conditions people are exposed to in earlier periods of their lives can have enduring effects on adult mental health. The third research question read as follows:

3. *To what extent do lower parental resources during childhood contribute to adult mental illness in addition to current individual and partner resources?*

In Chapter 2 we examined whether growing up in families with lower socioeconomic resources was related to adult mental illness. The general hypothesis stated that people who grew up in adverse socioeconomic childhood living conditions suffered more from adult mental illness. Our findings failed to show a direct effect on adult mental illness. However, growing up in a socioeconomic disadvantaged family cause people to obtain lower social positions, at least to some extent, and so indirectly affect people's mental health. People's level of socioeconomic resources is largely determined by the socioeconomic resources of the family they grew up in. People who grew up in socioeconomic disadvantaged families attain lower educational levels, and in turn lower social class. The educational attainment was found the key factor through which parental resources affect individuals. Furthermore, the individual's educational level seemed far more important –about six times- for one's social class than psychopathology at the age of 21 and family psychopathology. So, our results indicate accumulative disadvantage of growing up in lower socioeconomic families during the life course. Parental socioeconomic status influences educational levels, which in turn leads to lower social class. Having a lower social class in turn negatively affects one's mental health.

Analogously, in Chapter 4 we studied whether growing up in families with lower cultural resources was associated with adult mental illness. Again, growing up in families with lower cultural resources did not show a direct impact on adult mental health. However, the parental cultural resources are directly related to being integrated into a religious community, which in turn positively affect one's mental health. Logistic regression analyses showed that people who grew up in families in which one of the parents was not integrated into a Christian religious community are about eight times more likely to give up church membership, their educational level taken into account. In turn, people who are not integrated into a religious community suffer more from mental illness. If parents are members of a different Christian church, people seem about two times more likely to give up church membership. So, just as the parental socioeconomic resources affect the amount of socioeconomic resources of the individual, so does growing up in families with lower cultural resources affects the individuals' amount of cultural resources, and as a consequence one's mental health. Studying the impact of people's resources on their mental health from a life course perspective has brought more understanding of the trajectories people go through life and how these affect adult mental health.

Our fourth research question dealt with the impact of decreasing socioeconomic, social and cultural resources on one's mental health. It was formulated as follows:

4. *To what extent do decreasing individual resources contribute to mental illness in addition to current individual, partner and parental resources during childhood?*

We proposed that next to currently having lower levels of resources, also decreasing levels of resources may harm one's mental health according to the SPF-theory. We examined several indicators of decreasing socioeconomic, social and cultural resources. Our findings show that *decreasing* resources are not necessarily associated with mental illness. People who experienced intra- or intergenerational downward social mobility did not suffer more from mental illness compared to people who experienced no social mobility (Chapter 2). The same holds for people who gave up church-membership (Chapter 4). On the other hand, people who recently ended a lasting relationship or got divorced did suffer more from mental illness than people who did not end a lasting relationship (Chapter 3). On the impact of recent unemployment no firm conclusion could be drawn because of small numbers in our sample of people who recently lost their job (Chapter 2).

In the case of decreasing levels of resources it seems important to distinguish between recent and less recent changes. People who recently ended their relationship suffered more from mental illness, whereas people who ended their relationship over a decade ago showed equally good mental health than people who did not end a lasting relationship (Chapter 6). So, the negative effect of decreasing social resources does not have enduring consequences for one's mental health. A loss of resources seems compensated for by other resources, thereby cancelling out the impact on one's mental health.

In some cases people who experienced *increasing* levels of resources during the life course were found to suffer more from mental illness. When personal resources were

accounted for, people who experienced upward intragenerational social mobility suffered more from mental illness than people who experience no social mobility (Chapter 2 and 6). A small part of this relationship could be interpreted by subjective perceptions. People who experienced upward intragenerational mobility in part feel more worried about their financial situation, and therefore suffer more from mental illness. People who gained socioeconomic resources may feel they have more to lose. This may become even more apparent in times of economic recession (Tausig & Fenwick 1999). Also, people whose church attendance increased compared to their childhood suffered more from mental illness compared to people whose church attendance remained the same ever since childhood (Chapter 4 and 6). This relationship could not be explained by subjective perceptions of distress. Our findings that in some cases people that have higher resources or who gained resources during over time suffer more from mental illness raises new questions, which need further research.

Our fifth research question dealt with the impact of personal resources. We argued that having lower or decreasing levels of socioeconomic, social or cultural resources not necessarily induces mental illness, because people with more personal resources may be able to cope better with having lower or decreasing levels of resources, and therefore may be less vulnerable to mental illness. Personal resources may influence one's perception, interpretation and evaluation of stressors and so buffer the negative impact of having lower or decreasing socioeconomic, social or cultural resources. Therefore it seemed important to consider these personal resources in addition to the resources that reflect the social conditions people live in. Moreover, testing all of the different types of resources simultaneously provided the opportunity to compare the relevance of each of these resources for one's mental health. Our fifth research question was as follows:

5. *To what extent do personal resources affect people's mental health in addition to (decreasing) individual, partner and parental resources during childhood? And which of these resources seem more powerful predictors of mental illness?*

In Chapters 2, 3 and 4 personal resources were studied together with socioeconomic, social and cultural resources. In these chapters we distinguished between personal resources that may increase the risk to suffer from mental illness, and personal resources that seem to protect from mental illness.

Personal resources that may increase the risk to suffer from mental illness were acute negative life events, childhood adversity, psychiatric history of the respondent or his family and having a chronic physical disability. Our findings showed that some of these personal resources were associated with more mental illness. Most strongly associated with mental illness was a prior history of mental illness. People who have been treated for mental complaints at least one time in their life suffered more from mental illness, no matter at what age this had occurred. This indicates that being treated for mental complaints somewhere during in the life course often implies a life time vulnerability to mental illness. Childhood adversity was also found related to mental illness, but the effect was non-significant when all of the different resources were examined simultaneously. Experiencing a

random stressor did not harm people's mental health. However, the accumulation of randomly occurring stressors put people at risk to suffer from mental illness (Chapter 2). Accumulation of stressors increases feelings of powerlessness over life and insecurity over one's financial situation. The psychiatric history of the family or having a chronic physical disability did not directly induce mental illness.

Personal resources that may protect people from mental illness were personality characteristics, and age. Personality characteristics such as emotional stability, agreeableness and resourcefulness were found related to better mental health. Personality characteristics as extraversion and conscientiousness did not affect people's mental health. People with emotional stable personalities, high self-esteem, or who think of themselves as resourceful, have better mental health (in part) because they feel less insecure about their socioeconomic situation, feel more in control of their lives and more socially supported. As for age, in the separate chapters on socioeconomic, social and cultural factors we found increasing age to be associated with better mental health. However, when all different types of resources are examined simultaneously the effect was non-significant. So, the relationship between age and mental health seems brought upon by other resources. As people get older they gain more resources, which protect them from mental illness.

Adding personal resources into our analyses next to socioeconomic, social and cultural resources showed that personal resources seem powerful predictors of mental illness. Being an emotional stable personality seemed even a more powerful predictor than resources that reflect the social conditions people live in. On the other hand, the impact of the relevant sociological resources on one's mental health remains relatively unchanged by adding personal resources into our analyses. So, these resources both cover different aspects of determinants of one's mental health. Together these resources give good indications on who is at risk of mental illness.

Our sixth research question focussed on the impact of neighbourhood resources on one's mental health. It read as follows:

6. *To what extent do lower neighbourhood resources contribute to individual mental illness in addition to (decreasing) individual, partner and parental resources during childhood?*

Unfortunately, our data proved inadequate to test the effect of contextual socioeconomic, social and cultural resources on mental illness at the neighbourhood-level. Few studies that have examined the impact of neighbourhood resources so far show significant impact of neighbourhood characteristics on people's mental health (Aneshensel & Sucoff 1996; Meertens 2004; Ross 2000). So, further research is necessary in order to examine the influence of neighbourhood characteristics on mental illness. To do so properly, one needs to be aware that testing multilevel models for the general population implicates additional criteria to the sample design. A two-stage stratified random sample in which individuals are nested within neighbourhoods may not be effective enough to test contextual and individual hypotheses simultaneously as shown in our case (Jones 1993). In order to obtain reliable estimates on within-neighbourhoods variation and between-neighbourhood variation for a

representative sample of the general population a large number of both higher and lower level-units are necessary (Snijders & Bosker 1999).

We did rule out the potential impact of other contextual levels on mental illness that is the level of the municipality and district level. There seems no variation in mental health-scores between individuals within the same municipalities or districts compared to individuals in different municipalities or districts. The potential impact of social contexts needs to be looked for at lower levels, where there is more interaction with the persons living in it.

Our seventh research question focussed on the mechanisms through which objective circumstances are linked to mental illness. In order to understand why some people get mentally ill and others do not, we studied subjective perceptions as possible mechanisms linking objective social conditions to mental health. The seventh research question was formulated as follows:

7. *To what extent can the relationship between lower and decreasing levels of resources at the individual or contextual level and mental illness be explained by subjective perceptions on lower or decreasing resources?*

In each of the chapters on (the combination of) socioeconomic, social, and cultural resources we tested whether specific subjective perceptions could explain the relationship between objective resources and mental illness. In Chapter 2 on socioeconomic resources we focussed on perceptions of socioeconomic insecurity and relative financial deprivation, but also feelings of mastery. Except for relative financial deprivation, we found these perceptions to be related to mental health, contributing strongly to the explanation of mental illness. People who perceive their socioeconomic situation as more problematic and who feel less control over their lives suffer more from mental illness. The same holds for people who feel less social support (Chapter 3). In Chapter 4 we focussed on Christian beliefs, inner-worldly beliefs, salience of religion, perceived social support and sense of mastery. Only subscribing to inner-worldly beliefs on existential matters and feeling in control over one's life were associated with better mental health. In Chapter 5 we focussed on the perceptions of conflict on the interface between work and home. The perceptions of work-to-family conflict and family-to-work conflict were found associated with mental illness. People who found it more difficult to balance between work and family report more mental illness. The subjective perceptions such as relative financial deprivation (Chapter 2), neighbourhood attachment (Chapter 3), Christian beliefs and salience of religion (Chapter 4) seemed unrelated to mental health and therefore could not contribute to the explanation why people with lower resources suffer more from mental illness.

Overall, the explanatory qualities of subjective perceptions such as socioeconomic insecurity, mastery and social support seem fairly satisfactory. These subjective perceptions were able to partially explain why people with lower resources suffer more from mental illness, except for having lower cultural resources, which could fully be interpreted by these subjective perceptions. Non-members of Christian church, people that pray more often, people with lower social class, and people who recently ended their relationship suffer more

from mental illness (in part) because they perceive their socioeconomic situation as more problematic, they feel less control over their lives and less social support. People who received more emotional support did feel socially supported, but also less in control over one's life. Perceptions of socioeconomic insecurity, mastery and support were unable to explain why unmarried people without a partner, widowed people and people whose church attendance increased over time suffered more from mental illness. These effects were suppressed by subjective perceptions. As for perceptions of work-family conflict (Chapter 5), these perceptions could in part explain relationships between work characteristics as decisional authority and the psychiatric history of the individual and mental illness. People with lower control in their work or people that have a prior history of mental problems suffer more from mental illness in part because they feel more conflict between work and family. The effects of work schedule and having a partner were suppressed by perceptions of work-family conflict.

Our findings that people with lower socioeconomic, social and cultural resources suffer more from mental illness are in line with 'stress-theory'. Having lower resources indicates chronic stressors which induce mental illness. Furthermore, the fact that subjective perceptions are able to explain (some of) the associations between having lower resources and mental illness indicates that people differ in their experiences and interpretations of the social conditions they are living in, making them vulnerable to mental illness.

Finally, in Chapter 5 we examined the impact of combining work and family for one's mental health. The work-family interface was an example of how different resources are interrelated and as such need to be studied. Our last research question was formulated as follows:

8. To what extent do combining work and family contribute to mental illness?

In this chapter we tested two contradictory hypotheses on the effects of occupying multiple social roles for people's mental health. The role accumulation hypothesis stated multiple social roles to have positive effects on people's mental health because difficulties or demands in one role may be offset by positive attributes in other roles. The role stress hypotheses predicted negative effects for people's mental health because of conflicting demands (e.g. in time, energy) on the individual. The SPF-theory seemed in line with the role accumulation hypotheses. According to SPF-theory people who combine work and family have higher levels of socioeconomic and social resources, which would protect them from mental illness.

Our findings support both perspectives. In line with SPF-theory and the accumulation hypothesis we found that occupying more social roles was associated with better mental health. Also, we found a positive effect of having a full-time job in combination with having children on people's mental health. People with pre-school children and full time jobs did not suffer more from mental illness, and the mental health of people with adult children –either living at home or not- even benefits from having a full time job. Having a partner around reduces the demands of parenting, specifically with pre-school children. On the other hand, having a partner who contributes less to the household duties induces mental illness by the

partner's ego, which is in line with the role stress hypothesis, just as having a job with low decisional authority and lower skill discretion. Also, being a single parent with pre-school children in the age between 0 and 4 puts people at risk for mental illness. Especially when children are young, it seems very demanding to be a single parent. As children go to school, demands seem to decrease which benefits the parents' mental health.

Taken together, our findings do not support the idea that combining work and family is a burden and harmful for one's mental health. Whether combining work and family, or multiple social roles is beneficial or harmful to one's mental health depends on the characteristics of the social roles, such as one's work schedule, work characteristics, the age of the children living at home, and whether one is living with a partner and the partner's contribution to household duties. Focus should therefore be on more qualitative aspect of social roles. For some people combining work and family seems more beneficial for their mental health than for others, depending on the characteristics of one's work and family situation.

6.5 Social causation versus social selection discussion

In the first chapter we discussed the debate on the nature of the relationship between lower socioeconomic status and mental disorder. There, two theories were introduced to explain the association: the social causation hypothesis and the social selection hypothesis. The social causation hypothesis posits that adversity associated with lower social status causes mental disorder, while the social selection hypothesis posits that people drift into lower social positions due to the experience of mental disorder. Ideally, one needs panel data to conclude on this matter. However, in this study a cross-sectional dataset was used. In order to conclude more firmly on whether the mechanism of social selection or social causation seemed more important for mental illness we accounted for former psychopathology of the respondent. In addition to direct effect of social selection, we also accounted for parental psychopathology to test whether social selection may occur more indirectly. By doing so, we were able to test to what extent social selection -either direct or indirect- plays a role in the variation in resources and mental illness.

Our findings predominantly support the social causation hypothesis. In all chapters on different resources there was no direct impact of family psychopathology on mental illness. The impact of the psychiatric history of the respondent did show some direct impact on people's mental health. However, the impact of socioeconomic, social or cultural resources on mental illness at best only changed marginally when the psychiatric history of the respondent was accounted for. In these cases, a prior history of mental illness seems to account for some of the association between certain resources and mental illness, which is in line with the selection argument. Furthermore, in Chapter 2 and 4 we examined whether the psychiatric history of the respondent at the age of 21 or the psychiatric history of their parents affected people's level of socioeconomic or cultural resources, and thus indirectly affect people's mental health. Our results showed that people's level of socioeconomic resources is determined to a large extent by the socioeconomic resources of the family they grew up in. There seemed no selection into lower educational levels because of a prior

history of mental illness of the respondent or his family, and as for social class, only a small part seemed due to the prior psychiatric history of the respondent at age 21 or the psychiatric history of his family. Social class was primarily determined by people's own level of education, which in turn was only affected by the socioeconomic resources of the parents during childhood. Similar results were reported for the individual's cultural resources. A prior history of mental illness of the respondent at the age of 21 or his family did not affect the likelihood to give up church membership. The likelihood to give up church membership was mainly affected by the lower cultural resources of the parents during childhood. So, people who obtain lower socioeconomic or cultural resources do so because they come from socio-economically and culturally disadvantaged families, not because of a prior history of mental illness of the respondent or his family.

6.6 Theoretical and empirical progress

In this study we aimed to advance research on mental illness by starting from the general theoretical framework of Social Production Function theory. The answers to our research questions clearly illustrate that this general framework has been proven to be useful within to the study of mental illness. A significant strength of the SPF-theory is its ability to integrate within a single framework the analysis of a variety of topics such as socioeconomic position, education, social mobility, social support and social networks, religion, personality but also social roles and so synthesize between several research traditions that have studied mental illness. Based on our general proposition we were able to derive more systematically than in most previous studies a great amount of hypotheses on the impact of sociological factors: people's social positions, network, religiosity and social roles on their mental health. We also incorporated psychological factors into the study of mental health by including personality characteristics and subjective perceptions. By testing several factors simultaneously with a large-scale dataset representative for the general population we were able to bring on more understanding on decisive determinants of mental illness. Besides the theoretical progress of such a multifactorial model, we empirically improved upon previous studies by using a large-scale dataset representative of the Dutch general population. So far, only a limited number of studies had used large-scale dataset to study mental illness.

Another point of progress was found in applying a *contextual perspective* and a *dynamic/life course perspective* to the study of mental health. Although the SPF-theory mainly focuses on individual resources, the general proposition could easily be extended to contextual resources, thereby incorporating ideas from sociology about partner, parents and neighbourhood into the field of social epidemiology. By applying a contextual perspective and a life course perspective to the study of mental health theoretical progress was made. We were able to formulate new questions that so far have not been given much attention within the study of mental illness. Although our results indicated only moderate direct impact of partner characteristics on the individual's mental health in addition to one's individual characteristics, the partner perspective did shed new light on gender differences in mental health. In order to understand mental health differences between men and women it seems crucial to also examine the resources of the partner. The impact of

contextual resources at the neighbourhood level unfortunately could not be tested. As for the life course perspective, our results stress the importance of the period of (early) childhood and adolescence in understanding who is at risk to suffer from mental illness. The parental resources during childhood affect people's level of resources and thus indirectly affect the individuals' mental health. Applying the life course perspective enabled a better interpretation of differences in socioeconomic and cultural resources in mental health. Studies that ignore the impact of childhood living conditions will therefore underestimate the gradient of these individual's resources in mental health. Furthermore, (early) childhood and adolescence seem even more important because the formation of one's personality to a large extent seems to take place during this period of time. Our findings have shown that certain personality characteristics seem very important in understanding who is at risk to suffer from mental illness.

In addition we studied mental health from an *explanatory perspective*, examining the mechanisms that link objective social positions to mental illness. We focussed on subjective perceptions as explanatory pathways to mental illness in order to gain insight into the dynamic interaction between a person and his environment. Subjective perceptions were able to explain to some extent why certain people suffer more from mental illness. So, aspects of meaning and interpretation of social environment by a person seem important intervening factors that can bring on more understanding why people with lower resources suffer more from mental illness.

6.7 Suggestions for future research

Overall, understanding mental illness is a complex matter which requires a multidisciplinary approach. In order to understand which social categories are at risk to suffer from mental illness, relevant determinants of mental illness should be studied simultaneously. Studying determinants of mental illness in relation to one another enables us to conclude on their relative weight and detect possible spurious relationships. In order to do so it seems necessary for scholars from different research traditions to incorporate ideas and methods from each other into their own work (Wheaton 2001). More specifically, social epidemiological approaches to mental illness should be complemented by sociological and psychological approaches to mental illness. This book has shown that such a strategy seems fruitful and advances the study of mental health. In addition, the focus of researchers studying mental illness should not be on the individual, but rather on the individual and his social context. The social context provides additional resources that may protect people from mental illness, but it may also pose additional threats on people's mental health. Our findings on work-family interface showed that combining work and family does not necessarily induce mental illness, but rather depends on the specific conditions people deal with in their work and family situation. This emphasizes that the individual should not be studied as a separate entity, but within a certain social context. The household context and neighbourhood context seem worthwhile to further examine as has also been shown by Monden (2003) and Meertens (2004). The impact of these contextual resources may be studied as multilevel models with individuals nested within household and neighbourhoods.

Furthermore, mental illness should be studied from a dynamic perspective, studying an individual within different social contexts at different point in times. The results of this study clearly show that it is important to distinguish between recent decreases in resources and less recent. The effect of getting divorced for instance was found a short-term threat to one's mental health. Over time people seemed able to compensate for the recent loss of resources. We also reported indirect accumulating effects of growing up in early disadvantaged socioeconomic and cultural childhood living conditions. So, the aspect of time seems crucial in understanding the effect of stressors on people's mental health. It may matter for one's health at what time during the life course people experience lower or decreasing levels of resources. Having lower or decreasing resources at earlier stages in life may be even more harmful than at later stages in life. So, there seems greater potential in the life course perspective for the study of mental illness. A possible drawback to applying a life course perspective, but also the partner perspective to study variation in mental health would be that it requires rich datasets, with a heavy burden on the respondent's memory to recall crucial events. The partner's characteristics may be best studied by analyzing household panels in which both the individual and its partner are interviewed. In this book we tested hypotheses on childhood living conditions by using retrospective questions, which may have introduced bias. The ideal design to study the effect of childhood living conditions over the life course into adult mental health would be by a gathering panel data. Gathering such information however may be expensive and time-consuming apart from other practical problems (e.g., panel mortality).

Finally, the underlying mechanisms that can explain why people suffer from mental illness should be given further attention. In this book we studied subjective perceptions as a link between objective resources and mental illness. Aspects of meaning and interpretation of social environment by a person seem important intervening factors. Additional explanatory mechanisms that may be studied are the meaning people attach to certain types of resources Simon (1995) found that men and women attach different meaning to occupying certain social roles, which leads to different mental health outcomes. The meaning people attach to specific resources may also be important in cases of decreasing levels of resources. A loss of resources which seem less valuable to someone could have no or less severe consequences for one's mental health than SPF-theory predicts. The meaning people attach may serve as a coping strategy to deal with lower or decreasing resources. Studying coping strategies may bring more understanding as to why in some cases people with lower resources seem in equally good mental health as people with higher levels of resources, and in other case people with higher resources suffer more from mental illness.

Appendix A

A.1 *Description of (decreasing) socioeconomic resources*

		percentage	valid cases
Social class of respondent			
1	higher professional	7.8	
2	lower professional/routine non-manual employee	39.4	
3	small proprietors	5.1	
4	skilled manual workers	8.3	
5	unskilled manual workers	8.6	
6	retired	8.4	
7	full time education	4.5	
8	housekeeping	10.7	
9	people on welfare (unemployed/incapacitated for work)	7.2	
			1008
Income (in guilders)			
1	less than fl 1000	2.3	
2	from fl 1000 to fl 1399	1.6	
3	from fl 1400 to fl 1799	3.7	
4	from fl 1800 to fl 2199	5.2	
5	from fl 2200 to fl 2599	6.8	
6	from fl 2600 to fl 2999	8.5	
7	from fl 3000 to fl 3999	17.6	
8	from fl 4000 to fl 4999	19.4	
9	from fl 5000 to fl 5999	12.8	
10	from fl 6000 to fl 7499	13.8	
11	fl 7500 and more	8.3	
			951
Level of education of respondent			
0	no school finished after elementary school	7.1	
1	lower vocational school (lbo)	15.1	
2	lower secondary school (mulo, ulo, mavo)	13.4	
3	secondary vocational school (mbo)	23.1	
4	O levels (mms, havo)	6.6	
5	A levels (hbs, vwo)	5.6	
6	college (hbo)	19.6	
7	university (wo)	9.5	
			1008

A.1 *Continued*

		percentage	valid cases
Social class of partner			
1	higher professional	10.2	
2	lower professional/routine non-manual employee	36.3	
3	small proprietors	5.2	
4	skilled manual workers	9.5	
5	unskilled manual workers	8.1	
6	retired	6.5	
7	full time education	3.5	
8	housekeeping	16.6	
9	on welfare (unemployed/incapacitated for work)	4.1	
			834
Level of education of partner			
0	no school finished after elementary school	7.0	
1	lower vocational school (lbo)	17.1	
2	lower secondary school (mulo, ulo, mavo)	12.8	
3	secondary vocational school (mbo)	21.4	
4	O levels (mms, havo)	6.0	
5	A levels (hbs, vwo)	5.8	
6	college (hbo)	20.1	
7	university (wo)	9.8	
			829
Social class of family			
1	higher professional	15.1	
2	lower professional	12.6	
3	routine non-manual employee	11.9	
4	small proprietors	24.8	
5	lower grade technicians/supervisors of manual workers	8.4	
6	skilled manual workers	14.0	
7	unskilled manual workers	13.2	
			978
Recently unemployed/incapacitated for work			
0	not recently unemployed/ incapacitated for work	98.0	
1	recently unemployed/ incapacitated for work	2.0	
			1008
Intragenerational mobility			
0	no mobility	57.6	
1	downward mobility	13.2	
2	upward mobility	29.2	
			957
Intragenerational mobility compared to partner			
0	same social class than partner	26.5	
1	lower social class than partner	34.9	
2	higher social class than partner	38.6	
			754
Intergenerational mobility			
0	same social class than partner	22.5	
1	lower social class than family	32.6	
2	higher social class than family	44.9	
			932

A.2 *Description of personal resources*

		percentage	valid cases
Acute negative life events			
0	no negative life events	27.0	
1	one negative life event	28.5	
2	two negative life events	30.5	
3	three negative life events	13.4	
4	four negative life events	.6	
			869
Childhood adversity			
0	no childhood adversity	56.1	
1	childhood adversity	43.9	
			642
Psychiatric history respondent			
0	never treated for mental complaints	85.5	
1	treated one time, first time age 6–29	3.9	
2	treated one time, first time age 30-66	6.2	
3	treated two times or more, first time age 6-29	2.4	
4	treated two times or more, first time age 30-66	2.0	
			1007
Psychiatric history family			
0	none of family members psychiatric treatment	73.1	
1	parent(s) or siblings psychiatric treatment	21.9	
2	both parent(s) and siblings treatment	5.0	
			949
Chronic physical disability			
0	no physical disability	70.2	
1	physical disability	29.8	
			1002
Gender			
0	male	49.8	
1	female	50.2	
			1008
Age*			
1	18 to 25 years	10.3	
2	26 to 35 years	19.2	
3	36 to 45 years	26.3	
4	46 to 55 years	23.6	
5	56 to 65 years	14.9	
6	66 to 70 years	5.7	
			1006

* a condensed frequency table is presented. The data file contains the actual age of the respondent

A.3 *Factor analysis of personality characteristics 'Big Five', orthogonal rotation (N=877, listwise deletion)*

Items	percentages			valid cases	h^2	factor loadings (>.20)				
	fits me	fits me partly	doesn't fits me			I	II	III	IV	V
Extraversion										
V3177 reserved	35.2	41.3	23.5	915	.46	-.68				
V3179 withdrawn	15.5	31.8	52.7	912	.56	-.71				
V3189 quit	20.6	33.2	46.2	915	.60	-.80				
sV3193 talkative	50.8	35.3	13.9	915	.47	-.65				
V3194 bashful	7.8	27.4	64.8	911	.36	-.53				
V3197 introverted	17.7	36.4	45.9	914	.51	-.69				
Conscientiousness										
V3190 sloppy	18.5	28.8	52.7	913	.48		.68			
sV3191 organized	50.8	33.2	16.0	913	.52		.71			
sV3198 systematic	45.8	36.9	17.3	911	.33		.57			
sV3201 careful	62.8	30.7	6.5	916	.61		.77			
sV3202 neat	55.3	34.1	10.6	917	.72		.83			
sV3204 thorough	58.9	31.2	9.9	913	.61		.77			
Agreeableness										
sV3178 cooperative	88.0	11.3	.7	917	.24			-.44		
sV3182 pleasant	68.1	30.4	1.5	915	.39			-.63		
sV3195 agreeable	70.6	28.1	1.3	914	.54			-.72		
sV3196 kind	85.5	13.3	1.2	916	.58			-.77		
sV3199 sympathetic	73.5	25.0	1.5	916	.52			-.72		
sV3206 helpful	87.7	11.7	.6	916	.34			-.53		
Emotional stability										
V3185 high-strung	21.2	29.1	49.7	913	.58				.76	
V3188 anxious	30.7	34.1	35.2	916	.45				.67	
V3192 fearful	10.7	26.9	62.4	913	.51				.69	
V3200 touchy	29.8	37.6	32.6	916	.31				.55	
V3203 irritable	19.7	43.1	37.2	914	.31				.54	
V3205 nervous	16.0	33.2	50.8	915	.70				.81	
Resourcefulness										
sV3180 artistic	23.5	28.5	48.0	915	.43					-.66
sV3181 imaginative	49.7	32.0	18.3	915	.45					-.64
sV3183 innovative	39.5	42.1	18.4	913	.32					-.53
sV3184 deep	57.8	30.3	11.9	916	.34					-.57
sV3186 creative	53.5	26.2	20.3	916	.55					-.73
sV3187 complex	57.1	31.9	11.0	913	.42					-.60
Total variance explained					.47					
Cronbach's alpha						.84	.80	.86	.83	.79

items with 's' in front are mirrored. Items range from 1 to 5.

A.4 *Description of intermediating variables: perception of socioeconomic insecurity, relative financial deprivation, and sense of mastery*

Items	percentage			valid cases	h^2	factor loadings
	fits me	fits me partly	doesn't fit me			
Perception of socioeconomic insecurity						
V3214 afford less	17.2	19.5	63.3	970	.45	.68
V3215 lay awake	10.1	11.7	78.2	964	.39	.66
V3216 adjust current lifestyle	20.6	17.3	62.1	965	.41	.64
V3217 fear to lose job	7.0	13.4	79.6	783	.34	.51
V3218 fear unable to find job	7.0	9.5	83.5	719	.39	.60
V3219 unsatisfied with income	10.7	20.7	68.6	942	.32	.55
V3220 unsatisfied with standing	7.4	11.4	81.2	947	.30	.57
V3221 work undervalued	22.8	19.4	57.8	881	.20	.42
V3222 trouble buy necessary things	9.4	12.1	78.5	965	.37	.63
Total variance explained	.35					
Cronbach's alpha	.82					
Relative financial deprivation						
V3116 declining financial situation	14.3	20.5	65.2	1006		
Sense of mastery						
V3207 little control	6.8	22.4	70.8	1003	.49	.70
V3208 no possibilities to solve problems	10.8	21.2	68.0	1003	.44	.66
V3209 no influence to change things	10.8	20.6	68.6	1003	.21	.46
V3210 feeling helpless	7.3	20.3	72.4	1003	.52	.72
V3211 feeling pushed around	16.7	30.2	53.1	1003	.34	.58
Total variance explained	.40					
Cronbach's alpha	.75					

Items range from 1 to 5.

A.5 *Standardized direct effects of (decreasing) socioeconomic resources and personal resources on sense of mastery, perception of socioeconomic insecurity, and mental health*

Model	sense of mastery	perception of socioeconomic insecurity	mental health
Socioeconomic resources			
Social class of respondent *	**.11**	**.17**	**.14**
Income	**.11**	**-.33**	**-.08**
Level of education	**.11**	**-.11**	-.05
Social class of partner *	**.10**	**.08**	**.09**
Level of education of partner	**-.09**	**.11**	.01
Not having a partner	-.04	.02	-.**12**
Social class of family	**-.07**	**.08**	-.02
(Recent) decrease of socioeconomic resources			
Recent unemployed/ incapacitated for work	.05	-.02	-.03
Intragenerational mobility *	.05	**.09**	**.07**
Intragenerational mobility compared to partner *	.03	**.08**	.03
Intergenerational mobility *	**.07**	**.10**	.03
Personal resources (1)			
Acute negative life events *	**.07**	**.10**	.04
Childhood adversity	**-.06**	.05	-.02
Psychiatric history respondent *	**.08**	**.09**	**.18**
Psychiatric history family *	.01	**.06**	.03
Chronic physical disability	-.01	**.08**	.01
Personal resources (2)			
Extraversion	**.11**	-.05	-.03
Conscientiousness	.04	**-.12**	-.03
Agreeableness	.04	**-.08**	.04
Emotional stability	**.32**	**-.12**	**.36**
Resourcefulness	**.07**	.04	**.06**
Gender	-.01	.01	.03
Age	**-.08**	-.02	**.08**
Intermediating variables			
Sense of mastery			**.32**
Perception of socioeconomic insecurity			**-.10**
Relative financial deprivation			.04
Adjusted R^2	.30	.30	.47

Parameter estimates in bold figures are significant at the 5% level

* compound-variables; effect of parameter is positive by definition

Appendix B

B.1 *Description of (decreasing) social resources*

		percentage	valid cases
Marital status			
1	unmarried, no partner	10.1	
2	unmarried, partner	20.2	
3	married	58.8	
4	divorced, no partner	4.2	
5	divorced, partner	3.1	
6	widowed	3.6	
			1005
Gender			
0	male	49.8	
1	female	50.2	
			1008
Degree of instrumental support*			
0	no instrumental support	10.1	
1	30 minutes or less	17.6	
2	31 minutes through 60 minutes	18.0	
3	61 minutes through 120 minutes	19.6	
4	121 minutes through 180 minutes	10.3	
5	181 minutes or more	24.4	
			969
Degree of emotional support*			
0	no emotional support	54.4	
1	30 minutes or less	7.1	
2	31 minutes through 60 minutes	10.7	
3	61 minutes through 120 minutes	10.5	
4	121 minutes through 180 minutes	7.2	
5	181 minutes or more	10.1	
			996
Size of supportive social network*			
0	no people	1.0	
1	one through two people	25.2	
2	three through five people	42.8	
3	six through eight people	13.3	
4	nine people or more	17.7	
			917

* a condensed frequency table is presented. The data file contains the actual number of minutes the respondent received instrumental or emotional support and the actual size of one's supportive social network.

B.1 *Continued*

		percentage	valid cases
Type of caregiver instrumental support			
0	no help received	14.7	
1	partner	55.0	
2	family	19.3	
3	friends	5.0	
4	neighbour, colleague or professional	6.1	
			1007
Type of caregiver emotional support			
0	no help received	53.9	
1	partner	19.8	
2	family	11.2	
3	friends	10.9	
4	neighbour, colleague or professional	4.2	
			1006
Social participation			
0	no participation	36.1	
1	one association, spending two hours or less	15.0	
2	one association, spending three hours or more	14.1	
3	two associations or more, spending two hours or less	10.1	
4	two associations or more, spending three hours or more	24.6	
			1005
Recently ended a relationship /got divorced			
0	not (recently) ended a lasting relationship / got divorced	91.9	
1	recently ended a lasting relationship/ got divorced	8.8	
			1008

B.2 *Description of intermediating variables: perception of social support, sense of mastery, attachment to the neighbourhood*

Items		percentage			valid cases	h^2	factor loadings
		fits me	fits me partly	doesn't fit me			
Perception of social support							
V3223	people care	92.8	6.8	.4	1006	.51	.72
V3224	receive help	89.9	9.2	.9	1007	.67	.82
V3225	get comfort	85.1	13.6	1.3	1006	.73	.86
V3226	get advise	85.7	13.0	1.3	1007	.64	.80
Total variance explained		.64					
Cronbach's alpha		.87					
Sense of mastery							
V3207	little control	6.8	22.4	70.8	1003	.49	.70
V3208	no possibilities to solve problems	10.8	21.2	68.0	1003	.44	.66
V3209	no influence to change things	10.8	20.6	68.6	1003	.21	.46
V3210	feeling helpless	7.3	20.3	72.4	1003	.52	.72
V3211	feeling pushed around	16.7	30.2	53.1	1003	.34	.58
Total variance explained		.40					
Cronbach's alpha		.75					
Attachment to neighbourhood							
V1658	sorry had to move	61.2	18.4	20.4	1000	.29	.54
V1659	many contacts in neighbourhood	46.0	31.8	22.2	998	.55	.74
V1660	strongly involved in neighbourhood	42.8	30.4	26.8	1001	.80	.90
Total variance explained		.55					
Cronbach's alpha		.76					

items with 's' in front are mirrored. Items range from 1 to 5.

B.3 *Standardized effect of social resources, loss of social resources and personal resources on perception of social support, sense of mastery and mental health*

Model	perception of social support	sense of mastery	mental health
Social resources			
Marital status *	**.07**	**.10**	**.14**
Gender	**.18**	**-.06**	**-.06**
Instrumental support	-.02	**.10**	-.01
Emotional support	**.10**	**-.12**	**-.07**
Size of supportive social network	**.10**	.01	-.03
Social participation	.01	.03	.02
Recent decrease of social resources			
Recently ended relationship /got divorced	.00	-.05	**-.07**
Personal resources (1)			
Acute negative life events	.02	-.04	-.03
Childhood adversity	.04	-.04	-.04
Psychiatric history respondent *	**.14**	**.09**	**.17**
Psychiatric history family *	**.08**	.03	.01
Chronic physical disability	-.00	**-.08**	.01
Personal resources (2)			
Extraversion	**.11**	**.15**	-.04
Conscientiousness	.02	.02	.01
Agreeableness	**.19**	.02	**.05**
Emotional stability	.06	**.30**	**.36**
Resourcefulness	.04	.07	.01
Age	.04	-.04	**.07**
Intermediating variables			
Perception of social support			**.06**
Sense of mastery			**.32**
Attachment to neighbourhood			.03
Adjusted R^2	.15	.22	.47

Parameter estimates in bold figures are significant at the 5% level

* compound-variables; effect of parameter is positive by definition

Appendix C

C.1 *Description of (decreasing) cultural resources*

		percentage	valid cases
Denomination of respondent			
1	Roman Catholic	23.4	
2	Reformed	6.7	
3	Re-Reformed	8.1	
4	non-member	61.8	
			970
Church attendance			
1	no, hardly ever/ never	51.2	
2	yes, once or twice a year	28.3	
3	yes, about once a month	7.3	
4	yes, about once a week	13.2	
			1008
Frequency of prayer			
1	never	38.2	
2	sometimes	32.8	
3	yes, regularly	17.3	
4	yes, often	11.6	
			895
Spiritual experiences			
0	no spiritual experiences	80.2	
1	spiritual experiences	19.8	
			1008
Denomination of partner			
1	member of Christian church, same denomination as respondent	26.5	
2	member of Christian church, different denomination as respondent	8.6	
3	non-member of Christian church	47.6	
9	inapplicable/no partner	17.3	
			998
Number of religious best friends			
1	none members of Christian church	28.0	
2	some members of Christian church	48.3	
3	most members of Christian church	19.4	
4	all members of Christian church	4.3	
			1008

C.1 *Continued*

		percentage	valid cases
Denomination of parents during childhood			
1	both parents member of the same Christian church	61.0	
2	both parents member of Christian church, different denominations	3.4	
3	one parent member of Christian church, other non-member	12.3	
4	both parents non-member of Christian church	23.4	
			971
Religious upbringing			
1	yes	60.4	
2	a little	10.7	
3	no	28.9	
			1008
Church attendance during childhood			
1	no, hardly ever/never	31.3	
2	yes, once or twice a year	12.6	
3	yes, about once a month	7.8	
4	yes, about once a week	48.2	
			1008
Given up church membership			
0	remaining church member	75.2	
1	given up church membership 10 years ago or less	3.9	
2	given up church membership more than 10 years ago	20.9	
			1005
Changes in church attendance			
0	church attendance stayed the same	44.5	
1	church attendance has decreased	49.4	
2	church attendance has increased	6.1	
			1008

C.2 *Description of intermediary variables: Christian beliefs, inner-worldly beliefs, salience of religion*

Items		percentage			valid cases	h^2	factor loadings
		fits me	fits me partly	doesn't fit me			
Christian beliefs							
V0149	concerned with individual personally	29.5	21.6	48.9	938	.70	.84
V0150	God wants to be our God	33.2	20.7	46.1	917	.76	.87
V0166	life has meaning because of God	13.7	18.5	67.8	981	.74	.86
V0167	meaning because something after death	25.8	33.0	41.2	951	.59	.77
V0179	death has meaning if you believe in God	19.6	17.3	63.1	956	.45	.67
V0180	death is passage to another life	28.9	38.1	33.0	944	.48	.70
V0181	believe in God can bear a lot of pain	33.7	25.8	40.5	950	.35	.59
V0182	sorrow has meaning if you believe in God	15.0	20.5	64.5	947	.66	.82
V0199	good in world originates from God	16.2	26.6	57.2	974	.74	.86
V0200	God ensures good will conquer evil	22.5	25.4	52.1	946	.76	.87
Total variance explained		.62					
Cronbach's alpha		.94					
Inner-worldly beliefs							
V0170	life has meaning if you give it meaning	77.3	13.6	9.1	984	.50	.71
V0172	meaning of life is to make the best of it	85.4	9.9	4.7	985	.47	.68
V0188	death is natural rest	66.3	18.5	15.2	939	.24	.49
V0190	death is part of life	75.0	15.6	9.4	982	.23	.48
V0201	good and evil are the work of man	66.4	19.5	14.1	989	.39	.63
V0202	good and evil to be solved by humankind	80.0	12.8	7.2	977	.55	.74
V1200	cope with sorrow and adversity yourself	79.9	11.2	8.9	999	.29	.54
V1201	suffering and sorrow part of life	81.7	12.3	6.0	990	.35	.59
Total variance explained		.38					
Cronbach's alpha		.82					
Salience of religion (members of church)							
V0203	religious beliefs great influence daily life	37.5	27.5	35.0	448	.86	.93
V0204	Christian faith plays part when make decisions	31.1	25.9	43.0	448	.83	.92
V0205	Christian faith influence on political attitudes	28.4	20.0	51.6	434	.61	.78
V0206	life would be different without Christian faith	35.6	22.6	41.8	433	.62	.79
V0207	Christian faith interests me a great deal	45.0	30.0	25.0	447	.72	.85
Total variance explained		.73					
Cronbach's alpha		.93					
Salience of religion (non-members/ in doubt)							
V0208	world view great influence daily life	57.1	20.6	22.2	557	.72	.85
V0209	world view plays part when make decisions	53.3	19.6	27.1	565	.80	.89
V0210	world view influence on political attitudes	38.2	22.2	39.6	537	.53	.73
V0211	life would be different without world view	42.2	25.8	32.0	528	.64	.80
V0212	world view interests me a great deal	48.5	27.5	24.0	550	.64	.80
Total variance explained		.67					
Cronbach's alpha		.91					

C.3 *Standardized direct effects of (decreasing) cultural resources and personal resources on inner-worldly beliefs, sense of mastery and mental health*

Model	inner-worldly beliefs	sense of mastery	mental health
Cultural resources			
Denomination of respondent *	**.29**	.06	**.12**
Church attendance	**-.15**	.07	-.01
Frequency of prayer *	**.11**	.06	**.07**
Spiritual experiences	.05	.05	.02
Denomination of partner *	**.18**	.02	**.11**
Not having a partner	**.13**	**-.08**	**-.15**
Number of religious best friends	-.06	-.02	-.03
Denomination of parents during childhood *	**.07**	**.10**	.06
Religious upbringing *	.06	.03	.04
Church attendance during childhood	**-.14**	-.04	-.07
(Recent) decrease of cultural resources			
Given up church membership *	.04	**.12**	.02
Changes in church attendance *	**.10**	.03	**.10**
Personal resources (1)			
Acute negative life events	.05	-.05	-.02
Childhood adversity	.03	-.03	**-.05**
Psychiatric history respondent *	.04	.05	**.14**
Psychiatric history family *	.01	.05	.02
Chronic physical disability	.02	-.05	-.01
Personal resources (2)			
Extraversion	.05	**.11**	-.04
Conscientiousness	**-.07**	.04	.02
Agreeableness	**.12**	.04	.05
Emotional stability	-.06	**.33**	**.35**
Resourcefulness	.02	**.07**	.04
Level of education	-.01	**.14**	-.02
Age	**.13**	**-.10**	**.12**
Gender	.00	-.05	-.01
Intermediating variables			
Christian beliefs			.01
Inner-worldly beliefs			**.06**
Salience of religion			.02
Perception of social support			.02
Sense of mastery			**.34**
Adjusted R^2	.25	.25	.44

Parameter estimates in bold figures are significant at the 5% level

* compound-variables; effect of parameter is positive by definition

Appendix D

D.1 *Description of work and family characteristics and number of social roles*

		percentage	valid cases
Work schedule			
0	not having a job	30.8	
1	working less than 21 hours a week	12.8	
2	working 21 through 36 hours a week	22.6	
3	working more than 36 hours a week	33.8	
			1007
Having children			
0	no children	32.9	
1	youngest child living at home in the age 0 through 4 years	14.2	
2	youngest child living at home age 5 through 18 years	20.4	
3	children older than 18 years either living at home or not	32.6	
			1007
Time spent on household duties by respondent*			
1	less than 21 hours a week	65.4	
2	21 through 40 hours a week	20.9	
3	41 through 60 hours a week	9.0	
4	more than 60 hours a week	4.7	
			1003
Having a partner			
1	yes	74.4	
2	no	25.6	
			1008
Work schedule of partner			
0	not having a job	30.7	
1	working less than 21 hours a week	12.9	
2	working 21 through 36 hours a week	19.9	
3	working more than 36 hours a week	36.5	
			835
Time spent on household duties by partner*			
1	less than 21 hours a week	52.8	
2	21 through 40 hours a week	30.0	
3	41 through 60 hours a week	10.0	
4	more than 60 hours a week	7.2	
			737

D.1 *Continued*

		percentage	valid cases
Gender			
1	male	49.8	
2	female	50.2	
			1008
Psychiatric history respondent			
0	never treated for mental complaints	85.5	
1	treated for mental complaints	14.1	
			1007
Number of social roles			
0	zero roles: no work, no children and no partner	5.6	
1	one role: only children	4.6	
2	one role: only partner	2.5	
3	one role: only work	12.0	
4	two roles: children and partner	18.0	
5	two roles: work and children	3.3	
6	two roles: work and partner	12.7	
7	three roles: work, children and partner	41.3	
			1008

***** a condensed frequency table is presented. The data file contains the actual time spend on household duties, including the care of children of the respondent and its partner.

D.2 *Description of the three aspects of workstress: decisional authority, job pressure and skill discretion, and results of the factor analyses (N=697)*

		percentage					factor loadings (>.20)		
Items		fits me	fits me partly	doesn't fit me	valid cases	h^2	I	II	III
Decisional authority									
V3235	take part in decisions on job	80.1	14.9	5.1	707	.83	-.91		
V3236	say in what happens to me on job	69.7	21.6	8.6	707	.83	-.91		
Job pressure									
V3238	job requires me to work at fast pace	60.5	29.0	10.6	708	.79		-.87	
V3239	asked to do excessive amounts of work	44.3	36.2	19.5	707	.80		-.89	
V3240	job requires me to work hard	56.9	29.0	14.0	706	.76		-.88	
Skill discretion									
V3237	job requires me to do repeatable things	15.2	27.9	57.0	706	.99			-.99
Total variance explained						.83			
Cronbach's alpha							.79	.85	

D.3 *Description of work-family conflict and results of the factor analyses (N=703)*

		percentage						factor loadings (> .20)	
Items		always	often	some -times	never	valid cases	h^2	I	II
Work-to-family conflict									
V3227	difficult to fulfil domestic obligations because of work	1.0	11.1	56.7	31.1	700	.49	.69	
V3228	work schedule makes it difficult to fulfil domestic obligations	1.7	11.7	45.6	40.9	699	.40	.61	
V3229	work obligations make it difficult to relax at home	1.3	10.6	51.3	36.9	700	.46	.64	
V3230	work so hard no time for hobbies	2.0	22.7	46.6	28.7	700	.48	.73	
Family-to-work conflict									
V3231	irritations from home take out on colleagues	.0	.6	17.0	82.4	698	.23		.47
V3232	little pleasure in work because worries at home	.0	.7	25.0	74.3	700	.47		.69
V3233	difficulties concentrating at work because of home	.3	1.9	45.7	52.1	700	.47		.66
V3234	performances at work diminish due to problems at home	.0	.7	34.3	65.0	700	.45		.67
Total variance explained							.43		
Cronbach's alpha								.76	.72

D.4 *Correlations of mental illness and social roles (pairwise deletion, Nmin=530)*

	Work sched	Dec authority	Job pressure	Skill Disc	Having children	Houshld duties	Having partner	Work sched partner	Houshld duties partner	Gender	Psych history	Work-to family conflict	Family to-work conflict	Mental health
Work schedule	1.00													
Decisional authority	.10**	1.00												
Job pressure	.15**	.16**	1.00											
Skill discretion	-.23**	-.20**	-.07	1.00										
Having children	.31**	.07	.11*	.07	1.00									
Household duties	-.26**	-.06	-.02	.10**	.61**	1.00								
Having a partner	.07**	.08	.01	.00	.47**	.26**	1.00							
Work schedule partner	.04	-.03	.00	.09*	.32**	.31**	#	1.00						
Household duties partner	.23**	-.03	-.03	-.06	.50**	.15**	#	-.38**	1.00					
Gender	.34**	.07	.03	.21**	.10*	.41**	.06	.50**	.39**	1.00				
Psychiatric history respondent	.08*	.03	.03	.01	.08	.02	.12**	.16**	.06	.09**	1.00			
Work-to-family conflict	.33**	.02	.37**	-.13**	.03	-.07	.05	-.07	.10*	.15**	.06	1.00		
Family-to-work conflict	.07	-.11**	.07	.05	.08	.04	.10**	-.01	.05	.03	.20**	.34**	1.00	
Mental health	.16**	.14**	-.03	.18**	.11*	-.05	.20**	-.14**	.14**	.16**	.30**	-.21**	-.30**	1.00

** p<.01, * p<.05

not possible to calculate correlation between 'having a partner' and work schedule of the partner or the amount of time the partner spend on household duties

D.5 *Standardized direct effects of work and family characteristics on work-to-family conflict, family-to-work conflict and mental health*

Model	work-to-family conflict	family-to-work conflict	mental health
Job characteristics			
Work schedule	**.32**	**.15**	**.19**
Decisional authority	**-.07**	**-.11**	**.06**
Job pressure	**.33**	**.08**	.04
Skill discretion	.05	**-.07**	**.16**
Family characteristics			
Having children	**.06**	**.10**	.06
Time spend on household duties by respondent	**.09**	**.14**	.03
Having a partner	.05	**.09**	**.14**
Work schedule of partner	.07	**.09**	.04
Time spend on household duties by partner	.04	-.06	**.11**
Control variables			
Gender	.03	**.11**	.04
Psychiatric history respondent	**.08**	**.19**	**.18**
Intermediating variables			
Work-to-family conflict			**-.25**
Family-to-work conflict			**-.19**
Adjusted R^2	.23	.09	.24

Parameter estimates in bold figures are significant at the 5% level

Samenvatting (Summary in Dutch)

Inleiding

In deze studie staat de relatie centraal tussen de sociale context waarin mensen leven en het risico om psychische ongezondheid te ervaren. Een groot aantal studies vanuit verschillende onderzoekstradities hebben zich bezig gehouden met de vraag welke mensen meer risico lopen psychische ongezondheid te ervaren en waarom dat zo is. Deze studies hebben laten zien dat psychische ongezondheid niet gelijkmatig verdeeld is in de samenleving, maar dat vooral mensen met een 'lagere status' zoals mensen met een lagere sociaal-economische status, vrouwen, ongehuwden, ouderen, maar ook jongeren en mensen die in stedelijke gebieden wonen, meer psychische ongezondheid ervaren. Ondanks deze consistente bevindingen zijn er grote verschillen tussen deze studies: verschillen in conceptualisering en metingen van psychische ongezondheid, de focus op andersoortige determinanten, gebruik van verschillende, meestal specifieke steekproeven en andere methodologische aanpakken. Als gevolg van deze theoretische en methodologische verschillen is er weinig uitwisseling tussen de diverse onderzoekstradities die psychische ongezondheid bestuderen. In deze studie trachten we het onderzoek naar psychische ongezondheid verder te brengen door een groot aantal, vanuit verschillende onderzoekstradities relevant gevonden determinanten van ongezondheid, simultaan te bestuderen. Dit doen we aan de hand van de Sociale Productie Functie (SPF) theorie, die de mogelijkheid biedt om diverse benaderingen van psychische ongezondheid samen te voegen. Dit algemene theoretische raamwerk omsluit een breed scala van factoren en stelt ons daarmee in staat om op een meer systematische manier theoretische proposities te formuleren en hypothesen af te leiden over de sociale posities die mensen innemen en hun kans psychische ongezondheid te ervaren. Volgens de SPF theorie is de hoeveelheid hulpbronnen die mensen tot hun beschikking hebben bepalend voor de mate waarin mensen psychische ongezondheid ervaren: Mensen met weinig of een afnemende hoeveelheid hulpbronnen ervaren meer psychische ongezondheid. In deze studie onderscheiden we diverse type individuele hulpbronnen die voortkomen uit de sociale posities die mensen innemen: sociaal-economische, sociale, en culturele hulpbronnen. Daar de kans om meer psychische ongezondheid te ervaren niet alleen terug te voeren is op de sociale condities waarin mensen leven, maar ook op individuele kenmerken (zoals bijv. persoonlijkheidskenmerken) worden in aanvulling op de drie bovengenoemde hulpbronnen tevens persoonlijke hulpbronnen meegenomen.

Daarnaast trachten we het onderzoek naar psychische ongezondheid verder te brengen door het toepassen van drie perspectieven: een partnerperspectief, een levensloopperspectief en een verklarend perspectief. Het toepassen van een partnerperspectief vergroot de aandacht naar de sociale context waarin een individu

verkeert. Niet alleen eigen, individuele hulpbronnen kunnen bepalend zijn voor de psychische gezondheid, maar ook de hulpbronnen van de partner zouden daaraan bij kunnen dragen. Het levensloopperspectief stelt dat eerdere ervaringen in het leven langdurige effecten kan hebben op de latere psychische gezondheid. In deze studie wordt het levensloopperspectief toegepast door het bestuderen van de ouderlijke hulpbronnen tijdens het opgroeien van de respondent. Daarnaast is getracht meer inzicht te verwerven in de mechanismen tussen de sociale posities van mensen en het ervaren van psychische ongezondheid. Het verklarend perspectief richt zich op de subjectieve percepties van mensen als link tussen de objectieve hoeveelheid hulpbronnen die mensen tot hun beschikking hebben en psychische ongezondheid. Aan de hand van de SPF theorie en deze drie perspectieven worden nieuwe vragen geformuleerd en bestaande vragen op een meer grondige wijze getoetst. Door het toepassen van sociologische en psychologische perspectieven in de studie naar psychische ongezondheid beogen we theoretische vooruitgang te boeken.

Het toetsen van geformuleerde hypothesen gebeurt aan de hand van een grootschalige dataset die representatief is voor de algemene Nederlandse bevolking. Deze gegevens zijn verzameld als onderdeel van het in 2000 gehouden survey 'Sociaal-culturele ontwikkelingen in Nederland' (SOCON) en bevat informatie van 1008 mensen in de leeftijd van 18 tot en met 70 jaar. Deze dataset is uitvoerig beschreven in hoofdstuk 2. Het gebruik van een grootschalige, representatieve dataset komt tegemoet aan een belangrijke tekortkoming in het empirisch onderzoek naar determinanten van psychische ongezondheid in Nederland. Eerder onderzoek is vooral gedaan onder specifieke subpopulaties zoals patiënten van zorginstellingen en huisartspraktijken, ouderen, studenten, werkende vrouwen, werkelozen en kerkleden. Resultaten van dergelijke studies laten zich maar in beperkte mate generaliseren naar de algemene Nederlandse bevolking.

In hoofdstuk 1 introduceren we de SPF theorie en de drie uitbreidingen op deze theorie op basis waarvan acht onderzoeksvragen geformuleerd worden. Deze onderzoeksvragen worden achtereenvolgens in de empirische hoofdstukken (2 tot en met 5 en een gedeelte van hoofdstuk 6) stapsgewijs bestudeerd. Zo kijken we in hoofdstuk 2 naar de effecten van verschillende sociaal-economische hulpbronnen op psychische ongezondheid. In hoofdstuk 3 worden sociale hulpbronnen bestudeerd in relatie tot psychische ongezondheid en in hoofdstuk 4 op soortgelijke wijze de effecten van culturele hulpbronnen. In de eerste drie empirische hoofdstukken worden hulpbronnen afzonderlijk bekeken om zo meer expliciet de effecten van de partner hulpbronnen, de hulpbronnen van ouders tijdens het opgroeien en subjectieve percepties op psychische ongezondheid te onderzoeken. In de twee daaropvolgende hoofdstukken hebben we de effecten van verschillende typen hulpbronnen simultaan onderzocht. Zo hebben we in hoofdstuk 5 gekeken naar de relatie tussen werk en gezin en psychische ongezondheid en toetsen we in hoofdstuk 6 een integraal model waarin alle relevant gevonden hulpbronnen simultaan bekeken worden. In deze samenvatting bespreken we per onderzoeksvraag de belangrijkste bevindingen.

In hoofdstuk 1 wordt ook ingegaan op wat er in deze studie onder psychische gezondheid verstaan wordt en hoe psychische ongezondheid gemeten zal worden. Daarnaast is er een paragraaf gewijd aan de zogenaamde 'sociale causatie versus sociale

selectie'-discussie over de aard van de relatie tussen de sociale positie van mensen en hun kans psychische ongezondheid te ervaren.

De eerste onderzoeksvraag die we geformuleerd hebben heeft betrekking op de huidige hulpbronnen van het individu en de impact daarvan op iemands psychische gezondheid. Deze vraag luidde als volgt:

1. *In welke mate draagt het hebben van minder sociaal-economische, sociale en culturele hulpbronnen bij aan het ervaren van psychische ongezondheid?*

Onze bevindingen uit de diverse hoofdstukken laten zien dat in het algemeen mensen met minder sociaal-economische, sociale of culturele hulpbronnen meer psychische ongezondheid ervaren dan mensen met meer hulpbronnen. Mensen met een lagere sociale klasse ervaren meer psychische ongezondheid dan mensen met een hogere sociale klasse, met uitzondering van de geschoolde handarbeiders en gepensioneerden. Met name mensen zonder werk ervaren meer psychische ongezondheid: uitkeringsgerechtigden, huisvrouwen en studenten. Ondanks dat het hebben van een baan mensen lijkt te beschermen tegen psychische ongezondheid, blijft het noodzakelijk te kijken naar kenmerken van het werk, daar sommige banen beter beschermen tegen psychische ongezondheid dan andere. Het hebben van een parttime baan (<21 uur), een baan met weinig zeggenschap en verantwoordelijkheid over hoe het werk verricht wordt en een baan die weinig uitdaging en afwisseling kent, vergroot het risico om psychische ongezondheid te ervaren. Met name het hebben van een substantiële baan bleek een waardevolle hulpbron die bijdraagt aan een goede psychische gezondheid. Een hogere werkdruk bleek niet gerelateerd aan meer psychische ongezondheid (hoofdstuk 5). Daarnaast ervaren ook ongehuwden die momenteel geen relatie hebben en verweduwde mensen meer psychische ongezondheid. Het bleek belangrijk om naast iemands formele burgerlijke staat te kijken of mensen momenteel een partner hadden. Ongehuwde en gescheiden mensen die momenteel een relatie hadden rapporteerden een even goede psychische gezondheid dan getrouwde mensen. Ten slotte, mensen die niet tot een Christelijke kerkgenootschap behoren, ervaren meer psychische ongezondheid dan mensen die lid zijn van een Christelijk gereformeerd kerkgenootschap. Het simultaan toetsen van de diverse hulpbronnen laat zien dat er geen verschillen zijn tussen Christelijke religieuze denominaties en de kans om psychische gezondheid te ervaren.

Toch beschermen niet alle hulpbronnen tegen psychische ongezondheid. Het opleidingsniveau (hoofdstuk 2), de mate waarin mensen instrumentele steun ontvangen en de grootte van het sociale netwerk (hoofdstuk3), kerkgang en het hebben van spirituele ervaringen (hoofdstuk 4), het hebben van (jonge) kinderen en de tijd die men besteed aan huishoudelijk werk (hoofdstuk 5) laten op basis van multivariate analyses geen direct verband zien met psychische gezondheid, dan wel ongezondheid. Het hebben van een hoger inkomen leek in eerste instantie gepaard te gaan met een betere gezondheid, maar het simultaan toetsen van diverse hulpbronnen liet zien dat dit een schijnverband is, te wijten aan het hebben van meer persoonlijke hulpbronnen (hoofdstuk 6). Het zelfde bleek voor de sociale participatie van mensen in de samenleving. In sommige gevallen rapporteren

mensen met meer hulpbronnen juist meer psychische ongezondheid. Dat is het geval voor mensen die veel emotionele steun ontvangen en mensen die meer bidden. Deze bevindingen laten zich moeilijk interpreteren vanuit het perspectief van de SPF theorie en behoeven dan ook aanvullend onderzoek.

Partnerperspectief

De tweede onderzoeksvraag heeft betrekking op het effect van de hulpbronnen van de partner op iemands psychische gezondheid. Binnen de sociologie bestaat er een lange traditie naar de effecten van de kenmerken van de partner op het individu, maar binnen het onderzoek naar psychische ongezondheid zijn de kenmerken van de partner grotendeels over het hoofd gezien. De onderzoeksvraag luidt:

2. *In welke mate draagt het hebben van minder hulpbronnen van de partner bij aan de ervaring van psychische ongezondheid van het individu, naast de huidige individuele hulpbronnen?*

Onze bevindingen uit de diverse hoofdstukken laten zien dat het hebben van een partner op zich een waardevolle hulpbron is, die mensen beschermt tegen psychische ongezondheid. De vraag of de hulpbronnen van de partner bijdragen aan de psychische gezondheid wordt maar ten dele door onze resultaten ondersteund. Het hebben van een partner blijkt belangrijker dan het hebben van een partner met meer sociaal-economische of culturele hulpbronnen. Het hebben van een partner met een hogere sociale klasse of hoger opleidingsniveau liet geen direct effect zien op iemands psychische gezondheid (hoofdstuk 2 en 6). In hoofdstuk 4 vonden we dat mensen met een partner die geen lid is van een Christelijke kerk meer psychische ongezondheid ervaren. Echter, als we alle verschillende type hulpbronnen simultaan bekijken blijkt dit directe effect niet langer significant (hoofdstuk 6). Naast de absolute hoeveelheid sociaal-economische en culturele hulpbronnen van de partner hebben we gekeken in hoeverre een verschil in sociale klasse of religieuze denominatie tussen het individu en zijn partner bij zou kunnen dragen aan psychische ongezondheid. Het hebben van een hogere dan wel lagere sociale klasse van de partner ten opzichte van het individu heeft geen nadelige effecten voor de psychische gezondheid (hoofdstuk 2). Ook het behoren tot een andere Christelijke kerk dan die van het individu leidt niet tot meer psychische ongezondheid (hoofdstuk 4). In hoofdstuk 5 werden partner kenmerken onderzocht in het kader van de relatie tussen werk en gezin. Onze bevindingen lieten zien dat het aantal uren dat de partner werkt geen direct nadelig effect heeft op de psychische gezondheid van het individu, maar de bijdrage van de partner aan het huishouden daarentegen wel. Mensen met een partner die minder bijdraagt aan het huishouden ervaren meer psychische ongezondheid. Het hebben van een partner blijkt dus bij te dragen aan een goede psychische gezondheid, maar kan ook een bedreiging vormen voor een goede psychische gezondheid, afhankelijk van de bijdrage van de partner aan het huishouden.

Het introduceren van het partnerperspectief in de studie naar psychische ongezondheid bracht tevens nieuw inzicht in de gerapporteerde verschillen in gezondheid tussen mannen en vrouwen. Het simultaan onderzoeken van diverse type hulpbronnen laat zien dat de verschillen tussen mannen en vrouwen het gevolg zijn van verschillen in sociaal-economische en culturele hulpbronnen van de partner. De primaire sociale context blijkt dus van groot belang om gezondheidsverschillen te begrijpen, met name voor vrouwen.

Levensloopperspectief

De derde onderzoeksvraag heeft betrekking op het effect van de levensomstandigheden waarin iemand is opgegroeid op de latere psychische gezondheid:

3. *In welke mate dragen lagere ouderlijke hulpbronnen tijdens de kinderjaren bij aan de ervaring van psychische ongezondheid van het individu, naast de huidige individuele hulpbronnen en hulpbronnen van de partner?*

In hoofdstuk 2 hebben we gekeken in hoeverre het opgroeien in gezinnen met lagere sociaal-economische ouderlijke hulpbronnen leidt tot meer psychische ongezondheid op latere leeftijd. Onze bevindingen lieten zien dat er geen directe nadelige gezondheidseffecten zijn van het opgroeien in minder goede sociaal-economische omstandigheden. Wel is het zo dat ouderlijke hulpbronnen indirect de psychische gezondheid van hun kinderen beïnvloeden. De hoeveelheid sociaal-economische hulpbronnen die kinderen verwerven wordt in sterke mate bepaald door de ouderlijke hulpbronnen. Mensen die opgroeien in gezinnen waarin de ouders over minder sociaal-economische hulpbronnen beschikken, bereiken lagere onderwijsniveau's en daaropvolgend een lagere sociale klasse. Het hebben van een lagere sociale klasse leidt zoals eerder beschreven tot meer psychische ongezondheid. Deze resultaten laten dus een cumulerend negatief effect zien van het opgroeien in gezinnen met lagere ouderlijke hulpbronnen. Soortgelijke bevindingen hebben we gerapporteerd in hoofdstuk 4 waarin de ouderlijke culturele hulpbronnen tijdens het opgroeien zijn onderzocht. Ook hier bleken er geen directe nadelige gezondheidseffecten te bestaan, maar indirect dragen de ouderlijke culturele hulpbronnen bij aan de ervaring van meer psychische ongezondheid van hun kinderen op latere leeftijd. Logistische regressie analyse liet zien dat kinderen die opgroeien in gezinnen waarvan een van de ouders geen kerklid is ongeveer acht keer meer kans hebben de kerk te verlaten. Het niet behoren tot een kerkgenootschap heeft zoals eerder beschreven een negatief effect op de psychische gezondheid. Als beide ouders lid zijn van een verschillende Christelijke kerk is de kans om de kerk te verlaten ongeveer twee keer zo groot. Het toepassen van het levensloopperspectief binnen de studie naar psychische ongezondheid geeft meer inzicht in de trajecten die mensen afleggen gedurende hun levensloop en hoe deze de huidige psychische gezondheidstoestand (blijvend) beïnvloeden.

Dynamisch perspectief

4. *In welke mate dragen afnemende individuele hulpbronnen bij aan de ervaring van psychische ongezondheid bij het individu, naast de huidige individuele hulpbronnen en de hulpbronnen van de partner en ouders tijdens de kinderjaren?*

Verschillende indicatoren van afnemende sociaal-economische, sociale en culturele hulpbronnen door de tijd zijn door ons onderzocht. Onze bevindingen laten zien dat een afnemende hoeveelheid hulpbronnen niet per definitie leidt tot de ervaring van meer psychische ongezondheid. Mensen die een neerwaartse intra- of intergenerationele mobiliteit kenden gedurende de levensloop ervaren niet meer psychische ongezondheid (hoofdstuk 2). Hetzelfde geldt voor het opgeven van het kerklidmaatschap (hoofdstuk 4). Echter, mensen die recentelijk een langdurige relatie beëindigden rapporteerden wel meer psychische ongezondheid dan mensen die niet geconfronteerd werden met een dergelijk verlies van sociale hulpbronnen (hoofdstuk 3). Over het recentelijk verliezen van een baan konden geen sterke conclusies getrokken worden vanwege een zeer klein percentage mensen in de steekproef die aangaven recentelijk werkeloos te zijn geworden (hoofdstuk 2).

In het geval van afnemende hulpbronnen blijkt het belangrijk een onderscheid te maken tussen recent en minder recente veranderingen in de hoeveelheid hulpbronnen waarover mensen beschikken. Mensen die recentelijk een relatie beëindigden rapporteerden meer psychische ongezondheid, terwijl mensen die 10 jaar geleden of langer hun relatie beëindigden een even goede psychische gezondheid lieten zien dan mensen die geen verlies van sociale hulpbronnen hadden ervaren. Een verlies van sociale hulpbronnen kent geen blijvende negatieve consequenties voor de psychische gezondheid. Een afnemende hoeveelheid hulpbronnen blijkt gecompenseerd te kunnen worden door andere hulpbronnen, waarbij negatieve effecten op de psychische gezondheid ondervangen worden.

In enkele gevallen rapporteren mensen met toenemende hulpbronnen meer psychische ongezondheid. Mensen die opwaartse intragenerationele sociale mobiliteit gedurende de levensloop kenden, rapporteren meer psychische ongezondheid dan mensen die geen sociale mobiliteit kenden. Een klein gedeelte van deze relatie kon verklaard worden door de percepties van mensen ten aanzien van hun sociaal-economische situatie. Mensen die opwaartse mobiliteit ervaren tijdens hun leven maken zich deels meer zorgen over hun financiële situatie. Ook mensen die gedurende de levensloop in toenemende mate de kerk bezoeken rapporteren meer psychische ongezondheid dan mensen die in gelijke mate sinds hun jeugd de kerk bezoeken. Deze relatie kon niet verklaard worden door de onderzochte percepties van mensen. De bevinding dat in sommige gevallen mensen met meer hulpbronnen of toenemende hulpbronnen meer psychische ongezondheid ervaren vraagt om verder onderzoek.

5. *In welke mate dragen persoonlijke hulpbronnen bij aan de ervaring van psychische ongezondheid bij het individu, naast de (afnemende) individuele hulpbronnen en de hulpbronnen van de partner en ouders tijdens de kinderjaren? Welke van deze hulpbronnen zijn de belangrijkste determinanten van psychische ongezondheid?*

In hoofdstuk 2, 3 en 4 hebben we naast de hulpbronnen die de sociale condities van mensen reflecteren ook persoonlijke hulpbronnen bestudeerd. Hierbij hebben we onderscheid gemaakt tussen persoonlijke hulpbronnen die de kans om psychische ongezondheid te ervaren doen vergroten en persoonlijke hulpbronnen die mensen beschermen tegen psychische ongezondheid. Tot de eerste categorie persoonlijke hulpbronnen behoren: acute negatieve levensgebeurtenissen, jeugdtrauma's, eerdere psychische problemen van de respondent en zijn directe familie en het hebben van een chronische lichamelijke aandoening. Onze bevindingen laten zien dat sommige van deze hulpbronnen gepaard gaan met meer psychische ongezondheid. Met name een eerder verleden van psychische klachten leidt tot een levenslange kwetsbaarheid om psychische ongezondheid te ervaren. Mensen die ten minste één keer eerder in hun leven psychische ongezondheid hebben ervaren rapporteren meer psychische ongezondheid. De leeftijd waarop mensen voor het eerst geconfronteerd werden met psychische ongezondheid speelt daarbij geen rol. Het ervaren van negatieve levensgebeurtenissen op zichzelf leidt niet tot meer psychische ongezondheid. Echter, de accumulatie van dergelijke willekeurige stressoren vergroten het risico om psychische ongezondheid te ervaren. Jeugdtrauma's, psychische problemen van de ouders en het hebben van een chronische lichamelijke aandoening laten geen directe nadelige effecten zien op de psychische gezondheid.

Onderzochte persoonlijke hulpbronnen die beschermen tegen psychische ongezondheid zijn persoonlijkheidskenmerken en leeftijd. Persoonlijkheidskenmerken als emotionele stabiliteit, plezierigheid en vindingrijkheid blijken te beschermen tegen psychische ongezondheid, maar persoonlijkheidskenmerken als extraversie en nauwgezetheid blijken niet gerelateerd aan psychische gezondheid. Niet alle persoonlijkheidskenmerken dragen dus bij aan een goede psychische gezondheid. Wat betreft de relatie tussen leeftijd en psychische gezondheid, die lijkt tot stand gekomen door de hoeveelheid hulpbronnen die mensen verwerven tijdens hun leven. In de afzonderlijke hoofdstukken over sociaal-economische, sociale en culturele hulpbronnen was er steeds sprake van een significant positief effect op de psychische gezondheid. Echter, als verschillende typen hulpbronnen simultaan getoetst worden, blijkt het leeftijdseffect niet meer significant.

Het bestuderen van persoonlijke hulpbronnen naast sociaal-economische, sociale en culturele hulpbronnen laat zien dat persoonlijke hulpbronnen sterke voorspellers zijn van psychische gezondheid dan wel ongezondheid. Het hebben van een emotionele stabiele persoonlijkheid bleek een betere voorspeller dan de hulpbronnen die de sociale condities waarin mensen leven reflecteren. Aan de andere kant bleven de effecten van relevante sociologische hulpbronnen grotendeels ongewijzigd door het toevoegen van persoonlijke hulpbronnen in het model. Tezamen geven deze hulpbronnen een goed beeld welke mensen meer risico lopen psychische ongezondheid te ervaren.

De zesde onderzoeksvraag van deze studie heeft betrekking op het effect van de buurt waarin mensen wonen op hun psychische gezondheid. Ook de buurt waarin mensen wonen behoort tot de sociale context waarin mensen verkeren. De onderzoeksvraag luidt:

6. *In welke mate dragen de hulpbronnen van de buurt bij aan de ervaring van psychische ongezondheid bij het individu, naast de (afnemende) individuele hulpbronnen en de hulpbronnen van de partner en ouders tijdens de kinderjaren?*

Onze data bleek ongeschikt om de effecten van sociaal-economische, sociale en culturele hulpbronnen op buurtniveau op de psychische gezondheid te toetsen. De weinige studies die het effect van buurtkenmerken getoetst hebben laten een duidelijk effect zien op de psychische gezondheid van mensen, maar meer onderzoek lijkt gewenst. Om dergelijke multiniveau hypothesen voor de algemene populatie te toetsen is een groot aantal observaties noodzakelijk, binnen zowel hogere als lagere analyse-niveaus. Een aselecte, gestratificeerde steekproef is wellicht niet effectief genoeg om individuele en contextuele effecten simultaan te toetsen, zoals hier het geval bleek. Wel zijn we in staat geweest om eventuele contextuele effecten op het niveau van de gemeente en het district (3-cijferige postcode) op iemands psychische gezondheid uit te sluiten. Deze contextuele niveau's dragen niet bij aan de verklaring van individuele gezondheidsverschillen. De werking van de sociale context op de gezondheid van het individu moet op lagere niveau's gezocht worden.

Verklarend perspectief

De zevende onderzoeksvraag in deze studie heeft betrekking op de mechanismen die ten grondslag liggen aan de relatie tussen objectieve sociale omstandigheden van mensen en de ervaring van psychische ongezondheid. Om meer inzicht te krijgen waarom sommige mensen meer psychisch ongezondheid ervaren dan anderen kijken we naar de subjectieve percepties van mensen. Vanuit de cognitieve emotietheorie kunnen we stellen dat niet zozeer het hebben van de objectieve hoeveelheid hulpbronnen leidt tot meer psychische ongezondheid, maar de ervaring en interpretatie van de hoeveelheid hulpbronnen. Stress en mogelijk psychische ongezondheid zouden ontstaan als gevolg van de ervaren discrepantie tussen objectieve sociale condities waarin mensen verkeren en de beleving van deze sociale condities. De onderzoeksvraag luidt:

7. *In welke mate kunnen de relaties tussen de hoeveelheid hulpbronnen op het individuele en contextuele niveau en de ervaring van psychische ongezondheid verklaard worden door de subjectieve percepties?*

In elk van de hoofdstukken over (de combinatie van) sociaal-economische, sociale en culturele hulpbronnen werden specifieke percepties getest die een mogelijke interpretatie zouden kunnen geven voor het verband tussen objectieve hulpbronnen en psychische ongezondheid. In hoofdstuk 2 dat handelt over sociaal-economische hulpbronnen hebben we gekeken naar de percepties van sociaal-economische onzekerheid, relatieve financiële deprivatie en gevoelens van controle over het eigen leven. Met uitzondering van relatieve financiële deprivatie bleken deze percepties in sterke mate gerelateerd aan psychische ongezondheid. Mensen die hun sociaal-economische situatie als meer problematisch ervaren en mensen die minder controle over hun eigen leven voelen, ervaren meer psychische

ongezondheid. Hetzelfde geldt voor mensen die zich minder sociaal gesteund voelen (hoofdstuk 3). Een sterkere verbondenheid aan de buurt liet geen effect zien op de psychische gezondheid (hoofdstuk 3). In hoofdstuk 4 hebben we gekeken naar de Christelijke geloofsovertuiging, binnenwereldlijke geloofsovertuiging, het normatieve belang van religie voor het dagelijkse leven, ervaren sociale steun en het gevoel van controle over het leven. Alleen het onderschrijven van een binnenwereldlijke geloofsovertuiging en het gevoel controle te hebben over het eigen leven bleek gerelateerd aan een betere psychische gezondheid. In hoofdstuk 5 ten slotte hebben we gekeken naar percepties van conflicten tussen werk en familie. Mensen die het moeilijk vinden om een balans te vinden tussen werk en familie ervaren meer psychische ongezondheid.

De verklarende kwaliteiten van percepties als sociaal-economische onzekerheid, controle over het eigen leven en sociale steun stellen tevreden. Deze percepties zijn in staat om ten dele, of in het geval van de culturele hulpbronnen zelfs volledig (hoofdstuk 6), te verklaren waarom mensen met minder hulpbronnen meer psychische ongezondheid ervaren. Mensen die geen lid zijn van de kerk, mensen die meer bidden, mensen met een lagere sociale klasse en mensen die recentelijk een vaste relatie beëindigd hebben ervaren meer psychische ongezondheid (deels) omdat zij hun sociaal-economische situatie als meer problematisch beschouwen, minder controle over hun leven voelen en zich minder sociaal gesteund voelen. Mensen die meer emotionele steun ontvangen, voelen zich ook meer sociaal gesteund, maar zij voelen juist minder controle over hun leven. Subjectieve percepties konden niet verklaren waarom ongehuwden zonder partner, gescheiden mensen en mensen waarvan de kerkgang is toegenomen gedurende de levensloop meer psychische ongezondheid ervaren. Deze relaties werden onderdrukt door percepties van sociaal-economische onzekerheid, controle en sociale steun. Wat betreft de perceptie van conflicten tussen werk en familie (hoofdstuk 5), deze konden deels verklaren waarom mensen met minder zeggenschap en verantwoordelijkheid over hoe het werk verricht wordt en mensen die een eerder verleden van psychische klachten kennen, meer psychische ongezondheid ervaren.

Onze bevinding dat mensen met minder hulpbronnen meer psychische ongezondheid ervaren is in overeenstemming met de 'stresstheorie'. Het hebben van minder of afnemende hulpbronnen kan aangemerkt worden als (chronische) stressoren die leiden tot meer psychische ongezondheid. Het feit dat subjectieve percepties geheel of ten dele het verband tussen het hebben van minder of afnemende hulpbronnen en de ervaring van psychische ongezondheid kan verklaren, geeft aan dat mensen daarnaast verschillen in de ervaring en interpretatie van de sociale condities waarin ze leven, waardoor zij meer kwetsbaar zijn voor psychische ongezondheid.

8. *In hoeverre draagt het combineren van werk en zorg bij aan de ervaring van psychische ongezondheid?*

In hoofdstuk 5 hebben we gekeken welke omstandigheden van (het combineren van) werk en zorg bijdragen aan psychische gezondheid, dan wel ongezondheid. Hierin worden twee tegenstrijdige hypothesen getoetst. De rolaccumulatie hypothese, die in overeenstemming is met de SPF theorie, stelt dat het vervullen van meerdere sociale rollen een positief effect

heeft op de psychische gezondheid omdat moeilijkheden of eisen in een sociale rol gecompenseerd kunnen worden door positieve ervaringen, energie of vaardigheden opgedaan in andere sociale rollen. De rolstress hypothese voorspelt negatieve effecten op de psychische gezondheid vanwege conflicten (bijv. in tijd, energie) tussen sociale rollen. Onze resultaten ondersteunen beide hypothesen. In overeenstemming met de rolaccumulatie hypothese en de SPF theorie is de bevinding dat het vervullen van meer sociale rollen een positief effect laat zien op de psychische gezondheid. Als het aantal sociale rollen dat mensen innemen toeneemt, neemt ook hun psychische gezondheid toe. Het combineren van een voltijdbaan in combinatie met de zorg voor kinderen heeft geen nadelige effecten op iemands psychische gezondheid. Mensen met jonge kinderen in de leeftijd van 0 tot en met 4 jaar en een voltijdbaan ervaren niet meer psychische ongezondheid. Mensen met kinderen van 18 jaar of ouder die voltijds werken ervaren zelfs minder psychische ongezondheid dan mensen met volwassen kinderen die in deeltijd werken. Daarnaast blijkt het hebben van een partner de eisen van het ouderschap te reduceren, in het bijzonder met voorschoolse kinderen. Alleenstaande ouders met jonge kinderen in de leeftijd van 0 tot en met 4 jaar ervaren meer psychische ongezondheid. Als kinderen naar school gaan lijken de eisen van het ouderschap af te nemen, hetgeen hun psychische gezondheid ten goede komt.

In overeenstemming met de rolstress hypothese zijn de bevindingen dat het hebben van een baan met weinig zeggenschap en verantwoordelijkheid over hoe het werk verricht wordt en die weinig afwisseling kent, alsook het hebben van een partner die in mindere mate bijdraagt aan het huishouden en de zorg voor kinderen, juist bijdragen aan psychische ongezondheid. Meer sociale rollen dragen dus niet per definitie bij aan een betere psychische gezondheid, het hangt af van de kenmerken van de betreffende sociale rol. De focus zou daarom meer moeten liggen op de kwalitatieve aspecten van de sociale rollen die mensen innemen. Voor sommige mensen is het combineren van werk en zorg beter voor hun psychische gezondheid dan voor anderen, afhankelijk van de kenmerken van het werk en de thuissituatie. Echter, het idee dat het combineren van werk en zorg per definitie een extra belasting is verdiend bijstelling.

Sociale causatie versus sociale selectie discussie

In hoofdstuk 1 is een paragraaf gewijd aan de zogenaamde 'sociale causatie versus sociale selectie'-discussie over de aard van de relatie tussen de sociale positie van mensen en hun kans psychische ongezondheid te ervaren. De 'sociale causatie' hypothese stelt dat het hebben van een lagere sociale positie leidt tot meer psychische ongezondheid, terwijl de 'sociale selectie' hypothese stelt dat mensen lagere sociale posities verkrijgen als gevolg van het ervaren van psychische ongezondheid. In deze studie is getracht inzicht te krijgen in de relevantie van beide mechanismen door eventuele eerdere psychische problemen van de respondent, maar ook die van zijn directe familie mee te nemen in onze analyses.

Onze bevindingen ondersteunen voornamelijk de 'sociale causatie' hypothese. In geen van de beschreven hoofdstukken werden effecten gevonden van psychische problemen van de directe familie op de psychische gezondheid van het individu. Wel bleek er een direct

effect van een eerder verleden van psychische problemen van het individu op zijn huidige psychische gezondheid. Echter, de gerapporteerde effecten van sociaal-economische, sociale en culturele hulpbronnen op iemands psychische gezondheid veranderden niet of nauwelijks door te controleren voor eerdere psychische problemen. In aanvulling hierop hebben we in hoofdstuk 2 en 4 gekeken in hoeverre psychische problemen van de respondent voor het 21^{e} levensjaar en psychische problemen van de ouders van invloed zijn op de hoeveelheid sociaal-economische en culturele hulpbronnen die iemand verwerft en zo indirect op iemands huidige psychische gezondheid. Deze resultaten lieten zien dat de hoeveelheid hulpbronnen die iemand verwerft voornamelijk bepaald wordt door de aanwezige hulpbronnen in het gezin. Mensen bereiken hoofdzakelijk lagere sociale posities doordat zij afkomstig zijn uit gezinnen met lagere ouderlijke sociaal-economische en culturele hulpbronnen, niet zozeer vanwege eerdere psychische problemen van de respondent of zijn familie.

Conclusies en discussie

Onze bevindingen laten zien dat het theoretische raamwerk van de Sociale Productie Functie theorie een vruchtbare aanpak is die het onderzoek naar psychische ongezondheid verder kan brengen. Een belangwekkend pluspunt van de SPF theorie is de mogelijkheid om binnen een theoretisch raamwerk een groot aantal uiteenlopende onderwerpen zoals sociaal-economische status, sociale mobiliteit, sociale steun en sociale netwerken, religie, persoonlijkheid en sociale rollen te kunnen bestuderen. De SPF theorie is daarmee in staat verschillende benaderingen en onderzoekstradities ten aanzien van psychische ongezondheid te integreren. Zo hebben we op basis van onze algemene propositie meer systematisch dan in andere studies een groot aantal hypothesen afgeleid over de invloed van de sociale condities waarin mensen verkeren op de kans om psychische ongezondheid te ervaren: sociale klasse, sociaal netwerk, religiositeit en de sociale rollen die mensen innemen. Naast deze sociologische factoren hebben we ook psychologische factoren als persoonlijkheidskenmerken en subjectieve percepties van mensen beschouwd. Daarnaast kon het theoretische raamwerk eenvoudig uitgebreid worden met ideeën vanuit de sociologie over de impact van de sociale context van het individu; zijn partner, ouders en buurt. Hoewel onze bevindingen een matig direct effect lieten zien van kenmerken van de partner op de psychische gezondheid van het individu, werd door het toepassen van het partnerperspectief wel meer inzicht verkregen in de gezondheidsverschillen tussen mannen en vrouwen. Het toepassen van het levensloopperspectief liet een betere interpretatie toe van de verschillen tussen sociaal-economische en culturele hulpbronnen en psychische ongezondheid. Door verschillende factoren simultaan te toetsen met behulp van grootschalige gegevens die representatief zijn voor de algemene populatie, hebben we bijgedragen aan theoretische en methodologische vooruitgang binnen het onderzoek naar psychische ongezondheid.

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Curriculum Vitae

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