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Time Out!
Getting Life Back on Track

A psychosocial support programme
targeted at young men exempted from
compulsory military or civil service



ACADEMIC DISSERTATION

To be presented, with the permission of
the board of the School of Health Sciences
of the University of Tampere,
for public discussion in the Auditorium of
School of Health Sciences, Medisiinäinkatu 3,
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ACADEMIC DISSERTATION

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List of original publications

The study is based on the following papers:

- I Appelqvist-Schmidlechner K, Upanne M, Henriksson M, Parkkola K & Stengård E. (2010) Young men exempted from compulsory military or civil service in Finland – A group of men in need of psychosocial support? *Scandinavian Journal of Public Health* 38, 168–176.
- II Appelqvist-Schmidlechner K, Henriksson M, Joukamaa M, Parkkola K, Upanne M & Stengård E. (2011) Psychosocial factors associated with suicidal ideation among young men exempted from compulsory military or civil service. *Scandinavian Journal of Public Health*. In press.
- III Appelqvist-Schmidlechner K, Henriksson M, Joukamaa M, Parkkola K, Upanne M & Stengård E. (2011) Psychosocial Support Programme for Young Men at Risk: Who Participates, Who Drops Out? *International Journal of Mental Health Promotion* 13, 40–49.
- IV Appelqvist-Schmidlechner K, Upanne M, Henriksson M, Parkkola K & Stengård E. (2010) Effects of a Psycho-Social Support Programme for Young Men – Randomised Trial of the Time Out! Getting Life Back on Track Programme. *International Journal of Mental Health Promotion* 12, 14–24.

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Abbreviations

AUDIT	The Alcohol Use Disorders Identification Test
CACE	Complier average causal effects
CAGE	Cutdown, Annoyed, Guilt, Eye-opener (CAGE) questionnaire to screen for alcohol problems
CBT	Cognitive behavioural therapy
CI	Confidence interval
GHQ-12	The 12-item General Health Questionnaire
ICD-10	International Statistical Classification of Diseases and Related Health Problems
OR	Odds Ratio
RCT	Randomised controlled trial
SD	Standard deviation
STAKES	Sosiaali- ja terveystieteen tutkimus- ja kehittämiskeskus (National Research and Development Centre for Welfare and Health)
THL	Terveystieteen ja hyvinvoinnin laitos (National Institute for Health and Welfare)

Summary

The purpose of this study was twofold: to investigate the psychosocial well-being of young men exempted from compulsory military or civil service and to assess the effects of the Time Out! Getting Life Back on Track support programme targeted at this group of men.

The study involved a total of 356 men exempted from military or civil service and 440 young men conscripted for service in Helsinki and Vantaa in Finland. Men exempted from service were randomly assigned to an intervention group (n=182) and a control group (n=174). Respondents in the intervention group were offered a personal counsellor, a professional working in municipal social and health services and providing the support programme as part of their basic duties. The counsellors were specially trained for the intervention. The support programme was based on an interactional model for prevention. Together with the counsellor the men were able to discuss their current life situation, such as mental health, substance abuse and general well-being, as well as receive support and encouragement in resolving the situation. The research data were collected using questionnaires, interviews with the men and register data. Information on the implementation of the support programme was collected at different stages. A one-year follow-up survey was conducted.

Men exempted from military or civil service differed significantly from conscripts in their background, living habits, life situation and psychosocial well-being. Compared with conscripts, they had already been in a more disadvantaged position with regard their childhood living conditions. In adulthood, they had met with a greater number of mental and social problems than conscripts: substance abuse, economic problems, unemployment, homelessness and mental distress. One third of the young men exempted from compulsory military or civil service reported serious suicidal ideation. Of the men with serious suicidal ideation, one third had attempted suicide. Various childhood adversities and current stressful life events and

problems were associated with suicidal ideation. Accumulation of problems was characteristic for men exempted from service.

In particular, the Time Out! Getting Life Back on Track support programme reached out to young men suffering from mental distress and an accumulation of problems. However, the men with the most problems could not be reached at all. At one-year follow-up psychological distress decreased in the intervention group more than in the control group. The intervention had no impact on young men's alcohol consumption, self-assessed quality of life, problem accumulation, self-confidence or contentment.

Men exempted from compulsory military or civil service comprise an important target group in the prevention of psychosocial problems or suicide. Health service providers should be well aware of social factors that may elevate the risk of mental ill-health or suicidal behaviours. Supporting a healthy network of family and peer relationships should be an important issue in preventive activities among young people. Further, it is important to be aware of early risk indicators such as maternal or paternal alcohol-related or mental health problems.

The accumulation of problems poses a challenge for the development of interventions targeted at young people. The Time out! Getting Life Back on Track support programme is a good example of a comprehensive intervention for young men. Even small-scale support can have a positive impact on the general well-being of young men. This study highlights the complexity of adherence in psychosocial interventions. Young men who do not comply with preventive interventions are a heterogeneous group. The need for support may vary widely – even within an identified risk group. Reaching out to young men at risk involves intense activity among service providers.

Tiivistelmä

Tämän tutkimuksen tarkoituksena oli tutkia varusmies- ja siviilipalveluksen ulkopuolelle määrättyjen nuorten miesten psykososiaalista hyvinvointia sekä tälle kohderyhmälle kehitetyn Time Out! Aikalisä! Elämä raiteilleen tukipalvelun vaikuttavuutta.

Tutkimukseen osallistui yhteensä 356 palveluksen ulkopuolelle sekä 440 palvelukseen määrättyä helsinkiläistä tai vantaalaista nuorta miestä. Palveluksen ulkopuolelle määrätty miehet satunnaistettiin interventio- (n=182) ja kontrolliryhmään (n=174). Interventoryhmään kuuluville miehille tarjottiin henkilökohtainen ohjaaja, joka oli tehtävään koulutettu sosiaali- ja terveysalan ammattihenkilö. Ohjaajan kanssa miehellä oli mahdollisuus käydä läpi ajankohtaisia, esimerkiksi mielenterveyteen, päihteiden käyttöön ja yleiseen hyvinvointiin liittyviä asioita sekä saada tukea ja rohkaisua asioiden hoitamiseen. Tutkimusaineisto kerättiin kyselylomakkeilla, miehiä haastatteleamalla ja rekisteritietoja hyödyntämällä. Tukiohjelman toteuttamiseen liittyvää tietoa kerättiin tukiohjelman eri vaiheissa. Tutkimukseen kuului yhden vuoden seuranta.

Varusmies- tai siviilipalveluksen ulkopuolelle määrätty miehet erosivat taustoiltaan, elämäntavoiltaan ja -tilanteeltaan sekä psykososiaaliselta hyvinvoinniltaan merkittävästi palvelukseen määrättyistä miehistä. Palveluksen ulkopuolelle jääneet miehet olivat jo lapsuusajan elinolojen suhteen lähtökohtaisesti palvelukseen määrättyjä miehiä heikommassa asemassa. Aikuisikään päästyään heidän tielleen oli kasautunut palvelukseen määrättyjä enemmän erilaisia psyykkisiä ja sosiaalisia ongelmia: päihteiden ongelmakäyttöä, taloudellisia ongelmia, työttömyyttä, asunnottomuutta ja psyykkistä oireilua. Kolmasosa palveluksen ulkopuolelle määrättyistä miehistä oli joskus elämänsä aikana vakavasti harkinnut itsemurhaa. Itsemurhaa vakavasti harkinneista kolmasosa oli myös yrittänyt itsemurhaa. Lapsuusajan vaikeudet sekä ajankohtaiset kuormittavat tapahtumat ja ongelmat olivat yhteydessä itsemurhaharkintoihin. Ongelmien kasautuminen oli yleistä palveluksen ulkopuolelle määrättyillä.

Yhden vuoden seurannassa interventoryhmään kuuluvien miesten psyykinen kuormittuneisuus väheni enemmän kuin vertailuryhmään kuuluvien. Interventiolla ei ollut vaikutusta nuorten miesten alkoholinkäyttöön, itse arvioituun elämänlaatuun, ongelmien kasautumiseen, itseluottamukseen tai minäkäsitykseen. Time Out! Aikalisä! Elämä raiteilleen -tukipalvelu tavoitti erityisesti psyykkisesti oireilevia nuoria miehiä, joille oli kasautunut erilaisia ongelmia. Miehiä, joille oli kasautunut eniten ongelmia ei kuitenkaan pystytty tavoittamaan ollenkaan.

Varusmies- tai siviilipalveluksen ulkopuolelle määrätty miehet muodostavat tärkeän kohderyhmän psykososiaalisten ongelmien ja itsemurhien ehkäisyssä. Terveystenhuollon henkilöstön tulee olla tietoinen mielenterveysongelmien ja itsemurhakäyttäytymisen sosiaalisista riskitekijöistä. Nuorten ehkäisevässä työssä tulee kiinnittää erityistä huomiota toimiviin sosiaalisiin suhteisiin. Myös lapsuusajan riskitekijöiden – kuten vanhempien alkoholi- tai mielenterveysongelmien – varhainen tunnistaminen ja tuen tarjoaminen on tärkeää.

Ongelmien kasautuminen asettaa haasteen nuorille suunnattujen tukitoimien kehittämiselle. Time Out! Aikalisä! Elämä raiteilleen tukipalvelu on hyvä esimerkki nuorille miehille kehitystä kokonaisvaltaisesta interventiosta. Pienelläkin tuella ja avulla voi olla positiivinen vaikutus nuoren miehen elämään. Tutkimus toi esille interventioon kiinnittymiseen liittyvät haasteet. Nuoret miehet, jotka eivät osallistu ja kiinnity ennaltaehkäiseviin interventioihin muodostavat heterogeenisen ryhmän. Tuen tarve voi vaihdella suuresti tunnistetussa riskiryhmässäkin. Tuen tarpeessa olevien nuorten miesten tavoittaminen edellyttää usein palvelun tarjoajien omaa suurta aktiivisuutta.

1. Introduction

The level of adolescent subjective well-being is fairly high in Europe (Currie et al. 2004, Morgan 2008) and also in Finland (Koskinen et al. 2005, Myllyniemi 2007, Helakorpi et al. 2010, Luopa et al. 2010). However, there is a growing number of young people who do not fare so well, many of them not receiving the help they may need (Rimpelä 2006a, Morgan 2008). Instead of physical disorders, mental disorders account for a large and growing share of ill health among children and adolescents in Europe. The so-called “new-morbidity” including emotional problems, conduct problems and learning disabilities came to the fore in the middle of the last century. Currently within the frame of the so-called “millennial morbidity” (Palfrey et al. 2005), mental health and socioeconomic influences on health have risen to achieve political importance within child and adolescent health (Ravens-Sieberer et al. 2007). Nine per cent of 18-year-olds suffer from depression (WHO 2005) and suicide is the leading cause of death among young people in Europe (Eurostat data 2011). Policymakers, practitioners and experts have expressed their concern and called for supportive interventions targeted at young people, also in Finland (Opetusministeriö 2007, Sosiaali- ja terveystieteiden ministeriö 2008).

The relationship between mental ill-health and social exclusion is complex, with many of the elements of exclusion (low income, lack of social networks, unemployment) being in different circumstances both causal factors and consequences of mental ill-health (Sayce 2001). Mental health problems can lead to a vicious cycle of social exclusion, including unemployment, debt, homelessness and deteriorating health. On the other hand, various social problems may trigger mental distress and mental health problems. Poorer education, unemployment and mental disorders are strongly associated with each other (Fryers et al. 2007, Suvisaari et al. 2009). Breaking the cycle of accumulation of psychosocial problems requires a focus on early intervention (Office of the Deputy Prime Minister 2004, Friedli 2009).

Besides the negative effects on an individual level, psychosocial problems in young people also affect many other spheres of life – family, friends and society at large – causing costs not only to the health care system (Suhrccke et al. 2007, O’Connell et al. 2009). In fact, the cost of mental disorders among children and adolescents falls to a very large extent on sectors outside the health care system (Suhrccke et al. 2007). In the United States, one estimation is that the annual quantifiable costs of mental, emotional and behavioural disorders among young people amounted to \$247 billion in 2007 (O’Connell et al. 2009). Thus, psychosocial problems at a young age affect the prosperity as well as social and economic stability of societies, also in Finland. The role of depression and related disorders as diagnosed causes of work disability has increased in Finland since the 1990s (Harkonmäki 2007). In 2007, 1 954 individuals – more than one fifth – among cases of new disability pensions were under 30 years old. This number has doubled since 2000 (Raitasalo & Maaniemi 2011).

There has been major concern about the psychosocial well-being particularly of boys and young males in Finland (Sourander et al. 2004, Gissler et al. 2006, Karvonen 2006) as well as in other Western countries (MIND 2009, Palmer 2009). Violence and suicide together make up a quarter to a third of mortality in young men aged 10–24 years worldwide (Viner et al. 2001). In Finland, the recent tragic school shootings (Jokela upper secondary school in 2007 and Kauhajoki School of Hospitality in 2008) have greatly increased this concern (Hoikkala & Suurpää 2007, Kauhajoen koulusurmien tutkijalautakunta 2010). Compared with young Finnish women, young Finnish men have been found to show greater levels of delinquency (Honkatukia & Savolainen 2005, Gissler et al. 2006), alcohol abuse (Rimpelä et al. 2006b, Kestilä & Salasuo 2007), conduct disorders (Marttunen & Kaltiala-Heino 2007) as well as completed suicide (Kumpula et al. 2006). These differences between the genders have been found to be relatively consistent across cultures (Crijnen et al. 1999, Emslie et al. 2009).

How can we reach and identify young men in need of psychosocial support? As a cohort, Finnish children and adolescents up to age 16 can easily be reached through the schools. After this, most of them – but not all – can be reached through various educational institutions. The next opportunity to reach an entire male age cohort is at the time of military conscription. However, this contact has not been

in active use to provide support for young men in order to prevent psychosocial problems and promote general well-being.

Earlier studies have shown that men exempted from military service experience various psychosocial problems. It has also been suggested that the prevalence of problems observed at call-up may remain unchanged or even increase (Parkkola 1999, Multimäki et al. 2005). Similar findings have been reported in Sweden (Otto 1973, Allebeck & Allgulander 1990, Allgulander et al. 1992, Upmark et al. 1999) and Norway (Sund 1971). Although the need for supportive interventions targeted at young men exempted from service has been observed (Upanne & Rautava 1996, Multimäki et al. 2005), “Time Out! Getting Life Back on Track” was the first national support program to tackle this challenge. This study was conducted as a part of the project.

Time Out! Getting Life Back on Track was a research and development project intended to develop a psychosocial support programme to prevent psychosocial problems and promote general well-being among young men (Stengård et al. 2008abc). The project was implemented between 2004 and 2010 as a joint project between the National Research and Development Centre for Welfare and Health (STAKES; later National Institute for Health and Welfare, THL), the Finnish Defence Forces, the Ministry of Labour (later the Ministry of Employment and the Economy) and the participating municipalities. The project made use of this final compulsory contact that the entire male cohort has with the authorities. The target group consisted of men who were exempted from service at call-up or who failed to complete their military or civil service. The purpose of this study was twofold: to investigate the psychosocial well-being of young men exempted from compulsory military or civil service and to assess the effects of the programme targeted at this group of men. The study belongs to the tradition of applied research using theories and knowledge of different fields: fields of health science, sociology, social work, developmental psychology and medicine.

2. Review of the literature

2.1 Psychosocial well-being of young adults

2.1.1 Definition of “psychosocial well-being”

Well-being is a multidimensional construct. There are two streams of research in the study of well-being: the hedonic approach and the eudaimonic approach (Ryan & Deci 2001). In the hedonic approach well-being is defined in terms of happiness and of the presence of pleasure and absence of pain. It is reflected in the stream of research on subjective well-being (Diener 1984). The eudaimonic approach defines well-being through human potential resulting in a person's optimal functioning in life (Diener et al. 1985, Ryan & Deci 2001). It is reflected in the stream of research on psychological (Ryff 1989) and social (Keyes 1998) well-being. The term “well-being” seems to include three dimensions: subjective, psychological and social. Each of these dimensions is also described as multidimensional as well (Negovan 2010).

The term “psychosocial” is often seen as an umbrella term under which diverse research is carried out (Martikainen et al. 2002). It refers to everything and nothing in particular, which is likely to degrade the usefulness of the term (Martikainen et al. 2002, Weckroth 2007). The dynamic interrelationship between psychological and social factors is central in the definition. In the context of health research, psychosocial factors can be seen as 1) mediating the effects of social structural factors on individual health outcomes, or 2) conditioned and modified by the social structures and context in which they exist (Martikainen et al. 2002).

Martikainen et al. (2002) describe psychosocial explanations of health as processes that cannot be fully captured by single measures at one level. They require attention to macro, meso and micro level factors as well. In this concept a central constituent of a psychosocial explanation of health is that macro-, and meso-level social processes lead to perceptions and psychological processes at the individual level. These psychological changes can influence health through

direct psychobiological processes or through modified behaviours and lifestyles. However, psychosocial exposures, for instance unemployment, do not necessarily always invoke psychosocial processes. A psychosocial process is at hand when unemployment leads to loss of self-esteem and feelings of worthlessness that affect health via direct psychobiological processes or through modified behaviours and lifestyles.

The term “psychosocial well-being” refers to “a wide range of issues including, but not limited to mental, emotional, social, physical, economic, cultural, and spiritual health” (Negovan 2010, 88). The multidimensionality of this term poses many problems for researches attempting to measure it. In this study, psychosocial well-being refers to above all mental, emotional and social factors in individuals’ well-being.

The term “psychosocial support” is commonly seen in the field of humanitarian work or in emergency settings (Allden et al. 2009, Williamson & Robinson 2006). In this study psychosocial support is understood as activities and methods that enhance individuals’ psychosocial well-being and ability to cope and prevent psychosocial problems.

2.1.2 Adolescence and young adulthood as a development phase

Adolescence and young adulthood are developmentally critical periods in the lifespan. The transition to adulthood is a period which is determined by many changes. Adolescents and young adults are in a key phase of socialisation in terms of professional career and interpersonal relationships. Many behavioural patterns and living conditions relevant to health are established (Havighurst 1972, Aalberg & Siimes 2007). Lifestyle choices made in adolescence are often health-related, e.g. physical activity, alcohol consumption, stress management and social participation. All of these have major long-term influences on the individual, particularly in terms of factors that influence mental health and well-being. Individuals begin at early stages of their lives to follow behavioural and educational paths leading to different positions in relation to health and social class (Koivusilta et al. 2003, Hamilton & Hamilton 2009).

Adolescence is commonly divided into three periods: early adolescence (12–14 years of age), middle adolescence (15–17 years of age) and late adolescence (18–22 years of old). Each period is characterised by a certain developmental task

leading from one period to another (Aalberg & Siimes 2007). The interest of this study is late adolescence and young adulthood (18–29 years old).

Late adolescence and young adulthood represent a unique period of transition between youth and adulthood. Transitions, such as the transition from school to work, the transition from parental home to independent living, and the transition from social interaction with peers to intimate relationships are seen as key developmental tasks challenging the individuals as well as institutions (Salmela-Aro & Schoon 2009). This period is characterised by further development of emotional, social and financial independence from parents. Decisions about professional and educational goals, leaving home and starting a family become topical (Christie & Viner 2005). Young adults are particularly vulnerable to social exclusion, notably in the transition stage between education and employment. For example, leaving school early without access to full-time work can lead to disconnection economically and socially and failure to develop a sense of the future (Policy paper on the health and well-being of young people 2008, Darziger & Ratner 2010, Settersten & Ray 2010).

According to Havighurst (1972, 83) “early adulthood is the most individualistic period of life and the loneliest one, in the sense that the individual, or, at the most, two individuals, must proceed with a minimum of social attention and assistance to tackle the most important tasks of life”. Young people experiencing quality social relationships and who are engaged in intensive interactions with their environment are better prepared to take on these crucial transitional tasks (Salmela-Aro & Schoon 2009).

Youth transitioning into adulthood has not received as much attention as the well-being of children and younger adolescents. It seems that young adults have frequently been overlooked by policymakers and health practitioners, who have been more focused on designing programmes and services for schools and younger children. However, young people in this transition phase face a unique set of challenges and risks and it is important to identify intervention strategies that can enhance the development of these individuals in domains such as employment, education, independent living, substance use, life skills and mental health (Hadley et al. 2010).

Nurmi (1993) describes adolescent development as a process of setting personal goals, planning their realisation and evaluating success in goal attainment. Individuals’ personal goals have been found to direct their future life-paths and to

be associated with a high level of subjective well-being (Salmela-Aro & Nurmi 1997a) as well as the use of mental health services (Salmela-Aro & Nurmi 1997b). On the other hand, young people's success and failure in dealing with a particular developmental transition have consequences for the ways in which they try to direct their lives later on (Nurmi 1993, Nurmi & Salmela-Aro 2002).

The situation of young people is rapidly changing around the globe. The group of young people is less homogeneous than the group of school aged children, and the life trajectory for young adults is not as predictable or as homogeneous as in previous generations (Arnett 2000, Rowling 2006). Youth transitions – from school to work, from family home to own accommodation, from family of origin to own family – have become more prolonged and often also more problematic (Settersten & Ray 2010). Further, the transition to adulthood is more individualised and more open to opportunities and possibilities as well as to risks of failure and hazards (Arnett 2000, Aalberg & Siimes 2007). In the face of these challenges, the most vulnerable young people particularly may be at risk for mental health problems, substance abuse or antisocial behaviour.

The majority of adolescents navigate through this transition without encountering significant problems (Offer & Schonert-Reichl 1992). However, many health related and social problems may also begin during this time. Mental, emotional and behavioural disorders among young people may hamper psychological, social, academic and career development. The accomplishment of normal developmental tasks may be complicated (O'Connell et al. 2009). Adolescence is increasingly recognised as a life period that poses specific challenges for preventing problems and promoting health and well-being (Christie & Viner 2005). Next, several topics relating to psychosocial problems among young adults are discussed: mental health, suicidal ideation, problem behaviour, accumulation of problems and help seeking.

2.1.3 Mental health

Adolescence is a high risk period for severe mental and behavioural disorders, especially anxiety, depression and eating disorders in girls and behavioural problems in boys (Marttunen & Kaltiala-Heino 2007). Symptoms of alcohol abuse, psychoses, schizophrenia or suicidality typically occur in late adolescence / young adulthood (Marttunen & Kaltiala-Heino 2007).

Worldwide, up to 20 per cent of children and adolescents suffer from debilitating mental health problems (WHO 2001). As mental health problems in adolescence tend to be under-recognised and undertreated (Sourander et al. 2004), the prevalence of psychological problems and disorders may be higher than is reported in studies. In Finland, 40 per cent of young adults (18–29 years old) have at least one lifetime mental disorder according to a nationally representative study by Suvisaari et al. (2009). The prevalence of all mental disorders among young men was 35 per cent and among young women 46 per cent. The most prevalent lifetime disorders were depressive disorders (18 %, among men 11 % and among women 24 %), followed by substance abuse or dependence (14 %, among men 21 % and among women 7 %) and anxiety disorders (13 %, among men 8 % and women 17 %). The prevalence of any current mental disorder was 15 per cent, among young men 14 per cent and young women 16 per cent. The gender-related differences seem to be universal (Andrews et al. 2001, Alonso et al. 2004, Jacobi et al. 2004, Kessler et al. 2005a).

Although girls and women seem to suffer more commonly than boys and men from mental health problems, men are four times more likely to commit suicide than women, abuse alcohol and other drugs at least twice as commonly and engage in risk behaviours more commonly than women (Kolip & Schmidt 1999, White & Cash 2003, European Commission 2004, WHO 2008, Michel et al. 2009, Ravens-Sieberer et al. 2009). In general, females tend to suffer more from internalising disorders, while males have a tendency to experience more externalising problems. It may be that both genders tend to have different reactions to stress and trauma. Boys are more likely to respond to stress by means of aggression, engaging in risk behaviours or to deny or ignore stress and problems. By contrast, females more frequently become introverted and internalise the problems they encounter. Further, they are more likely to admit they cannot cope in difficult situations and more commonly turn to friends to discuss their problems (Tamres et al. 2002, Rickwood et al. 2005, WHO 2009).

Is men's mental ill-health a hidden problem? It seems that the real picture is more complicated than it seems at first sight and requires a broader examination of gender related differences in mental disorders. The higher prevalence of depression of young females compared with young males, for instance, could be explained by the suggestion that depression is less easily recognised in men. Some indicators of problem behaviour in men (heavy drinking, drug abuse, risk behaviours of

various kinds) may not be regarded as potential indicators of mental distress or depression. (Men's Health Forum 2006, MIND 2009). If this is so, it may mean that large numbers of depressed or distressed men are not getting the support and treatment they need (Men's Health Forum 2006). Kilmartin (2005) describes a "male" language of depression with symptoms defined in "masculine" terms, such as chronic anger, self-destructiveness, drug abuse, gambling, womanising and workaholism.

2.1.3.1 Risk and protective factors in mental health

Mental health has many determinants, of which some have a positive and others a negative influence. In other words, some factors are considered to be risk factors and increase vulnerability. On the other hand, certain factors have been identified to protect from mental disorders (European Commission 2004).

The specific risks that can endanger youth development may take a variety of forms. Risk factors of mental problems can be found within (individual attributes) and outside (environmental context) of the individual. They can be individual, family-related, social, economic and environmental in nature. Individual and family-related risk factors can be biological, emotional, cognitive, behavioural, interpersonal or related to the family context (WHO 2004). For instance, the study by Haavisto et al. (2005a) found poor adaptive functioning within the family and in education, lack of friends, somatic health problems, and using illegal drugs to be associated with a high level of depressive symptoms among 18-year-old boys in Finland in a large community-based 10-year follow-up study. Social, environmental and economic determinants for mental health are related to macro-issues such as poverty, war and inequality (WHO 2004).

Research on adult populations has suggested that the origins of many major mental disorders are in childhood or adolescence (Moffitt et al. 1996, Hofstra et al. 2002, Kim-Cohen et al. 2003, Kessler et al. 2005a, Sourander et al. 2006). Childhood living conditions and adversities are strongly associated with poor self-perceived health and mental health problems in later life (Kemppainen 2001, Chapman et al. 2003, Kestilä et al. 2006). Fergusson et al. (2005) found in their longitudinal cohort study that childhood conduct problems at age seven were associated with a wide range of adverse psychosocial outcomes 25 years later, including crime, substance abuse, mental health problems and problems in sexual/partner relationships. The Finnish "From a boy to a man" study showed that externalising problems already

at age three predicted parent reports of child's difficulties at 15 years of age (Sourander et al. 2006). Thus, there is clear evidence from life-course research that childhood and adolescent experiences have a marked influence on later life (Moffitt et al. 1996, Chapman et al. 2003, Riala 2004, Haavisto et al. 2005a, Sourander et al. 2005, Fryers 2007) and that there is considerable stability of psychiatric symptoms from childhood to adolescence and early adulthood (Hofstra et al. 2002, Kim-Cohen et al. 2003, Sourander et al. 2006). At most risk are the children of parents with psychiatric disorders and alcohol or drug abuse problems (Anda et al. 2002). The inter-generational transfer of problems presents a high risk for children's development and also constitute the main risk factor for social exclusion (Serbin & Karp 2004).

Although the risk factors for mental health problems are commonly found in the childhood living conditions, mental health problems may also begin in late adolescence. Kessler et al. (2005a) found in an American population-based study that half of all lifetime cases of mental disorders start by the age of 14 years and three fourths by the age of 24 years. Several elements of a young person's life – such as leaving the parental home for the first time, stress with exams, lack of employment or education opportunities, financial worries, worries about intimate relationships and stressful life events – can cause high levels of stress, which can trigger mental health problems (Olsson et al. 1999, Ge et al. 2001, Baca-Garcia et al. 2007).

Recent research has begun to focus on the role of protective factors in youth behaviour, complementing previous approaches concerned only with problems and risk taking. Protective factors promote positive behaviours and inhibit risk behaviours, hence mitigating the impacts of exposure to risk. Similarly to risk factors, protective factors can also be individual, family-related, social, economic and environmental in nature. Protective factors include the ability to cope with stress, positive parent-child interaction, problem-solving skills, pro-social behaviour, physical exercise and social support of family and friends (WHO 2004).

Positive and emotionally rewarding social relationships are recognised as key influences on physical and mental health (WHO 2002a). Self-reported depressive symptoms and antisocial behaviour have been shown to be associated with perceived social support among adolescents (Ritakallio 2008). Although the significance of the family as a source of social support decreases during adolescent development, the social support from parents still seems to have the most efficient

effect in buffering adolescents against many psychosocial problems (Garnefski & Diekstra 1996, Fröjd 2008).

Jessor et al. (1998) investigated the role of psychosocial risk and protective factors under circumstances of socioeconomic disadvantage among high school students in a large, urban school district. The study showed that protective factors moderated the effects of risk, especially for more disadvantaged young people. Key risk factors were low expectations for success, low self-esteem, hopelessness and having friends as models for problem behaviour. Attitudinal intolerance of deviance, positive orientation to health and having friends as models for conventional behaviour were found to be the key protective factors. Protective factors were found also to be significant predictors of change in adolescent problem behaviour over time. The direct effects of protection were consistent across all gender and racial/ethnic subgroups (Jessor et al. 1995).

It is important that the efforts to reduce risks in the lives of adolescents are increased to include the strengthening of protective factors. However, the relevance and potency of some risk and protective factors may change across developmental periods in the life span. For instance, in adolescence the influence of antisocial peers may play an important role as a risk factor. Therefore, intervention efforts should consider the developmental changes that may be taking place. Understanding developmental changes in risk and protective factors and the normative onset of problem behaviours are critical for the timing of intervention efforts (Catalano et al. 2002, Ferrer-Wreder et al. 2004).

2.1.4 Suicidal ideation

Suicide is one of three main causes of death among young men in many countries (White & Holmes 2006, Apter et al. 2009), and in Finland the most common cause of mortality among young men. Males commit about 80 per cent of suicides among adolescents 18–24 years old. Those especially at risk are adolescents with low attained educational level and those outside the job market (Pensola & Martikainen 2004, Kumpula et al. 2006).

Most suicides can be seen as the endpoint of prolonged difficulties rather than as an impulsive act (Marttunen et al. 1992) – according to Cole and Protinsky (1992) as “a continuum beginning with ideation, continuing to attempted suicide, and ending with completed suicide”. Runeson and his colleagues (1996) found that

this process is shorter among young males than females. Furthermore, young men less commonly communicate suicidal intent or seek help for their problems (Carlton & Deane 2000, Haavisto et al. 2005b).

The study by Hintikka (1998) showed that the 12-month prevalence of suicidal ideation was 1.2 per cent of 18–24 year old males and 2.9 per cent among females in the same age group in Finland. According to the study by Haavisto et al. (2005b) the prevalence of ideation of deliberate self-harm among Finnish males is four per cent. Similar results about the prevalence of suicidal ideation have been reported in other western countries, too (Lynch et al. 2006, Brunstein Klomek et al. 2007).

Suicidal ideation is not necessarily a predictor of other types of suicidal behaviours. It may vary from transient thoughts about the worthlessness of life to concrete plans for killing oneself (Diekstra & Garnefski 1995). Suicidal thoughts can be seen as a sign of distress (Lönqvist et al. 2007, Bertolote & Wassermann 2009), they may occur during periods of stress and then disappear because of positive influences in the person's life (Runeson et al. 1996). However, suicidal ideation is a notable risk factor for suicide and is therefore always to be taken seriously (Lönqvist et al. 2007).

A wide range of demographic, personal, familial and social characteristics is associated with risk of suicidal thoughts and behaviours (Hintikka 1998, Evans et al. 2004, Mclean et al. 2008). Studies have shown that suicidal ideation among young adults is associated, for instance, with bullying (Kaltiala-Heino et al. 1999, Roland 2002, Brunstein et al. 2007) and depressive symptoms in childhood (Haavisto et al. 2005b). Further, there are stressful life events such as financial difficulties and family conflict (Hintikka 1998, Engin et al. 2009) that do not cause suicide, but may prompt it in vulnerable individuals. These events may not seem great in themselves. They simply have particular meaning to a young person already at risk for suicide (Kalafat 2003). According to Kalafat (2003), these stressors include getting into trouble with authorities (e.g. school, police), disappointment and rejection such as a dispute with boy/girlfriend, poor school achievement, failure to get a job, or rejection from college, anxiety over impending change, conflict with family, death of a friend or relative or knowing someone who committed or attempted suicide. On the other hand, there are also factors such as social support or physical activity which reduce the risk of suicidality (McLean et al. 2008).

Previous studies have shown that nearly all of those with suicidal behaviours during the previous 12 months had been in some contact with health services during the same period, most of them with general practitioners or other primary care providers. However, only a minority had had contact with mental health or psychiatric services (Hintikka 1998, Luoma et al. 2002, Haavisto et al. 2005b, Kessler et al. 2005b, Brook et al. 2006, Pagura et al. 2009).

2.1.5 Problem behaviours

Problem or antisocial behaviours in young people are typically grouped into the following domains: violence and criminality, substance use and abuse, risky sexual behaviours and school failure (Ferrer-Wreder et al. 2004). In a longitudinal study, Moffit et al. (2001) found various gender differences in the patterns of antisocial behaviour. Males consistently emerged as more antisocial than females and males' antisocial behaviour was more often serious, and was thus more often officially sanctioned compared to that of females. Further, boys seemed to have higher rates than girls of the most important risk factors for antisocial behaviours, including more compromised neuro-cognitive status, more hyperactivity, and more peer problems. The study showed also gender differences in the outcomes during the transition to young adulthood. In particular, antisocial behaviour among young men was more likely to be associated with subsequent problems with work, substance abuse, and legal arenas, whereas antisocial behaviour among young women was more likely to be associated with relationship problems, depression, tendency to suicide, and poor physical health. Links between problem behaviours, mental, and physical disease have been identified by various studies (Farrington et al. 2002, Kaltiala-Heino et al. 2006, Fröjd 2008). In this literature review, two domains of problem behaviours are discussed in detail: school failure and substance abuse.

2.1.5.1 *School failure*

One key marker of the transition to adulthood is achieving success in the labor market and attaining the economic stability and self-sufficiency (Danziger & Ratner 2010). Education has become a significant marker for success, widening choices and horizons. Involvement in and commitment to the educational system play a very important role in positive youth development. Making progress in school and completing an education is not only a widely endorsed developmental

task for adolescents, but success in this regard is important for later life, especially for labour-force entry and participation but also for social integration in general (Jessor et al. 1998, Järvinen & Vanttaja 2001, Vanttaja & Järvinen 2006). However, there are more risks and insecurity than before connected with young people's educational and labour market status. Even the highest educational qualifications do not guarantee success in the labour market. Those with the minimum education and no intention of seeking further education are especially vulnerable. These young people are in danger of falling completely outside the sphere of the system, and their opportunities for the future will thus be significantly restricted (Järvinen & Vanttaja 2001, Rowling 2006, Danziger & Ratner 2010, Settersten & Ray 2010).

Problems in school tend to be more common among boys than girls (Gissler et al. 2006, Lavikainen et al. 2006, Luopa et al. 2010). School failure is increasingly recognised as the common marker of high-risk status (Dryfoos 1990). At worst, non-completed education or educational under-achievement can lead to various problems in later life. Educational under-achievement is associated with alcohol abuse (Kestilä & Salasuo 2007) as well as poor self rated health (Lavikainen et al. 2006), mental health problems (Isohanni 2000) and criminality in later life (Pritchard & Cox 1998).

Vanttaja and Järvinen (2006) followed the life-courses of “drop-out youths”. They found that dropping out of education and working life after compulsory schooling was quite a strong predictor of a weak educational and labour market position. Difficulties in the early stages in the labour market career are also believed to have potential repercussions in terms of increased criminality and a general lack of social integration (Korpi et al. 2003). However, according to the study by Vanttaja and Järvinen (2006) dropping out of education and work in youth does not necessarily lead to exclusion in later life. Many continued their education at a later age and succeeded in finding their place in working life (see also Bloom 2010).

The number of young people excluded from school and working life in Finland varies in recently published reports from 14 000 (Kaukonen 2007) to 95 000 (Häggman 2007). According to the report of the Ministry of Employment and the Economy in Finland, there were 22 000 young people outside education and working life in Finland in 2007. Of these, 13 000 were men and 9 000 women (Somero et al. 2009). The differences between the numbers of young people excluded from school and working life in the studies are probably related to different definitions of terms and interpretations of statistics.

Rintanen (2000) investigated health and educational exclusion among Finnish 18-year-old males. He found that about 10 per cent of the sample were at risk of educational exclusion. The study showed that the future of this group is bleak, not only because of its educational exclusion but also because of its health status and health related behaviour, which differed significantly from those in the rest of the population. In the at-risk group of men psychological problems were accumulated.

2.1.5.2 *Substance abuse*

One common type of problem behaviour among young people in western countries is abuse of alcohol and illegal drug. Heavy episodic drinking among adolescents was highly prevalent in Finland in the late 1990s (Rimpelä et al. 2006b, Metso et al. 2009). However, there has been a decreasing trend in adolescent alcohol drinking in Finland since 2000, with exception of the group of 18-year-old males (Raisamo et al. 2011).

Males seem to have alcohol problems in late adolescence more commonly than females. According to a recent study by Helakorpi et al. (2010), 25 per cent of males and 9 per cent of females in the age group of 15–24 years got drunk at least once a week. In the study by Kestilä & Salasuo (2007), one third of males and one fifth of females aged 18–29 years had alcohol problems. The sex differences are similar also in other western countries (Holly & Wittchen 1998, Wilsnack et al. 2000). These young people who often engage in heavy drinking usually also have other problems (Metso et al. 2009).

The increase in illegal drug use in the 1990s is referred to as the second drug wave in Finland (Metso et al. 2009). The wave broke at the turn of the millennium and the prevalence of drug experiments and use have remained relative unchanged in the 21st century (Metso et al. 2009, Rönkä & Virtanen 2009, Päihdetilastollinen vuosikirja 2010), with the exception of cannabis use (Puusniekka 2010). Drug abuse is more common among males than females (Rönkä & Virtanen 2009) and male drug users are significantly less likely than female users to quit using a drug (DeWitt et al. 1997). According to the recent findings of the School Health Promotion Survey, 18 per cent of males and 14 per cent of females in upper secondary schools and 23 per cent of males and 21 per cent of females in vocational schools had experimented with cannabis in 2010 (Puusniekka 2010). However, the majority of Finnish adolescents took a critical attitude toward illegal drug use (Metso et al. 2009).

Substance abuse can have a great impact on psychosocial well-being among young people. Frequent drunkenness, for instance, has been found to be associated with major depressive episode (Haarasilta et al. 2004), daily smoking, illegal drug use, delinquent behaviour (Niemelä et al. 2008) and educational achievement (Casswell et al. 2003) among young males. Heavy drinking in adolescence can also predict various problems later in life. Studies have shown that heavy drinking in adolescence is associated with alcohol abuse (Merikallio-Pajunen et al. 1996) and mental health and social problems (Viner & Taylor 2007) in adulthood.

2.1.6 Accumulation of problems

The co-occurrence of various forms of problems and problem behaviour in young adulthood is well documented (Jessor & Jessor 1977, Rönkä & Pulkkinen 1995, Moffitt et al. 2001, Flay 2002, Riala 2004, Kainulainen 2006, Kestilä et al. 2007, Ritakallio 2008). The accumulation of problems has become a focus of public concern and research on adolescents' well-being (Deater-Deckard et al. 1998, Rönkä 1999, Rönkä et al. 2000, 2001, Kainulainen 2006).

There are several concepts describing problem accumulation, for instance "the concept of problem gravitation" (Stattin & Magnusson 1996, Bergman & Magnusson 1997), or "the syndrome of problem behaviour" (Jessor & Jessor 1977). According to Jessor & Jessor (1977), a variety of behaviours considered problematic during adolescence, such as delinquency, illegal drug use, and precocious sexuality, are associated with each other constituting a "syndrome of problem behaviour" (Jessor & Jessor 1977). A similar problem behaviour pattern has also been identified among young adults (Donovan & Jessor 1985).

It seems that various problems in social functioning are linked by a common set of psychosocial risk factors, including, for example, low value set on academic achievement, lack of social support and high involvement in various problem behaviours (Rönkä & Pulkkinen 1995). Flay (2002) points out that all relationships among problem behaviours, mental health, healthy behaviours, and conventional social behaviours are bidirectional. Having a severe or broad spectrum of adjustment problems (such as aggressiveness, low school motivation, and poor peer relations) in early adolescence, seems to increase the risk of cumulative problems in young adulthood (Pulkkinen & Tremblay 1992).

Accumulation of problems often applies to a quite small group of people (Dryfoos 1990, Bergman & Magnusson 1997, Rönkä 1999, Moffitt et al. 2001). No actual data exist to precisely quantify youth risk groups in the population. Dryfoos (1990) tried to calculate the distribution of youth population according to risk status (labeled with very high, high, moderate, and low risk). Very high-risk youth, those with multiple-problem behaviours, made up about 10 per cent of the youth population. This group included those who had been arrested or have committed serious offenses, had dropped out of school or were behind their model grades, were users of heavy drugs, drank heavily, regularly smoked cigarettes and took drugs, and were sexually active but did not use contraception. Most of the highest risk youth “do it all”. High-risk youth included 15 per cent of the juvenile population who engage in many of these same behaviours but with slightly lower frequency and less dire consequences.

In Finland, Kainulainen (2006) examined accumulation and prolongation of problems 1970–2000. He found that a substantial proportion (10–25 %) of young adults of the 1970 suffered from prolonged problems related to social well-being (inadequate living conditions, financial difficulties, disability retirement, unemployment). Rönkä et al. (2000, 2001) found that men were more likely than women to have cumulative problems, and the accumulated problems tended to persist from early adulthood to adulthood.

Problem accumulation or negative development of life course often have roots in the childhood (Moffitt 1993, Pulkkinen et al. 2009). The Finnish “From a boy to a man” study investigated the childhood predictors of male criminality and psychiatric disorders. There is strong evidence that many childhood adversities and problems predict later problems related to delinquency, substance abuse, psychological or social well-being and negative development in general (Sourander et al. 2005, 2006, 2007, Brunstein Klomek et al. 2008, Niemelä et al. 2008). The study by Rönkä & Pulkkinen (1995) showed that childhood aggressiveness, problems in adjustment to school, and family problems jointly led to cumulative problems among men. No single risk factor predicted cumulative problems. However, accumulation of problems in young adulthood may also be only temporary (Rönkä & Pulkkinen 1995).

Negative development of life course may also have its onset in late adolescence or young adulthood. Life transitions may be turning points which offer a chance to break out of negative chains (Rutter 1996). Possible reasons for

a negative change in social functioning in young adulthood may be, for instance, unemployment, financial difficulties, difficulties finding the right educational track or problems in intimate relationships. These problems in isolation may not necessarily seem serious in themselves. However, accumulation of these problems may lead to a situation that seems – from adolescent’s point of view – to be hopeless.

Some turning points may also open up new opportunities, bringing a sense of success and mastery (Laub & Sampson 1993, Rutter 1996). The most important turning points motivating positive changes are stable employment and good intimate relationships (Sampson & Laub 1990, Laub & Sampson 1993).

2.1.7 Help seeking

Young people do not necessarily seek help for their problems. Numerous studies have shown that there is a large proportion of young people with mental health or other problems who neither seek nor receive help. The recent population-based study by Suvisaari et al. (2009) among young adults aged 19 to 34 years showed that only 24 per cent of those with a current mental disorder had a current treatment contact. This finding is similar to other studies in western countries (Andrews et al. 2001, Jacobi et al. 2004, Alonso & Lépine 2007).

Men are less likely than women to seek professional help for problems like depression, substance abuse, and stressful life events (Aalto-Setälä et al. 2002, Alonso et al. 2004, Drapeau et al. 2009). In particular, young men with a wide range of psychosocial problems are often beyond the reach of health and social services (Biddle et al. 2004, Sourander et al. 2004, Tylee & Walters 2004, Oliver et al. 2005, Rickwood et al. 2005). Biddle et al. (2004) investigated the help-seeking behaviours of mentally distressed young adults with a sample of 3004 subjects aged 16–24. They found that males were less likely than females to have sought some form of help. Further, males appeared to have a higher threshold of severity for help seeking than females, particularly for help from a general practitioner. Young men appear to be less likely to seek help until they reach more extreme levels of morbidity (Biddle et al. 2004).

Observed gender differences in help seeking suggest important differences in the ways that men and women respond to mental health problems and help-seeking. There are two theories explaining the differences. One theory, which focuses on support-seeking behaviour, suggests that the fact that women seek

support more than men has biological underpinnings (Tamres et al. 2002). Another theory is based on gender socialisation. Gender and the way we are socialised into different cultural norms have a big impact on how men and women interact with mental health services. The social roles of boys and girls in our community make it more acceptable for girls to admit to and articulate emotional needs. The stereotype of the tough, strong and resilient male who hides emotion, pain and distress is deeply ingrained in society and may affect men's help-seeking behaviour (Good et al. 1989, Tudiver & Talbot 1999, Möller-Leimkühler 2002, O'Brian et al. 2005). Males seem to have a "do-it-yourself" perspective relating to psychosocial problems (Rule & Gandy 1994). Help-seeking implies loss of status, loss of control and autonomy, incompetence, dependence and damage to identity (Davies et al. 2000, Möller-Leimkühler 2002, Addis & Mahalik 2003). Men are socialised to conceal their emotions representing weakness, fear, sadness or disappointment (Tamres et al. 2002, Wilson et al. 2005). Therefore, they may be more likely to cope with stress by denying the problem. Levant (1990) identified four internal barriers that impede men's help-seeking. These were difficulty in admitting the existence of a problem, difficulty in seeking help, difficulty in identifying and processing emotional status, and fear of intimacy.

It may also be that boys and young men do not as easily recognise psychological distress for what it is. Females have a higher mental health literacy than males (Rickwood et al. 2005, Burns & Rapee 2006). Women are more likely than men to interpret symptoms associated with depression and low general well-being as signs of emotional problems (Kessler et al. 1981). Furthermore, restrictive emotional openness and emotional skills among young men can also be seen as a reason for not seeking help (Davies et al. 2000, Ciarrochi et al. 2003, Rickwood et al. 2005). Girls are in general better than boys at expressing their emotional world to others (Rickwood et al. 2005). They are also more likely to recognise their psychological distress and share it with others.

It is specially alarming that a great proportion of young people with suicidal ideations or even attempts do not seek help from health services (Carlton & Deane 2000, Deane et al. 2001, Sihvola et al. 2007). In the study by Brook et al. (2006) nearly half of those with suicidal ideation did not perceive a need for care, including some receiving care. According to the study by Pagura et al. (2009) 76 per cent of individuals with suicidal ideation did not perceive any need for treatment or services. The barrier most commonly reported by individuals with suicidal ideation was a

preference to manage the problem themselves. Compared to females, males contend more frequently with their suicidal crisis by excessive consumption of alcohol and / or abuse of drugs (De Leo et al. 2005). This leads to an important question of how these individuals can first be identified and then helped. Luoma et al. (2002) suggest that alternative prevention activities may be needed, especially for younger men at risk for suicide (see also Pirkis et al. 2001).

The needs of depressive or psychologically distressed males in grave difficulties acting out and behaving abusively are often hard to fulfill through the health care services. First, there must be recognition of male-specific indicators of emotional distress such as heavy drinking, risky behaviour or physical violence. Services targeted at males should take account of “traditional” masculinity. Approaches that require “opening up” or admitting to vulnerability may run the risk of failing to be effective among males (Men’s Health Forum 2006). For young males who may be uncomfortable with verbal expression, processing by action rather than verbally expressing feeling could be the best method (Rowling 2006). Men’s groups, anonymous support and online information have been found to be successful methods in engaging men in treatment and support (MIND 2009). Second, interventions targeted particularly at young men need to be very easy to access and entail no risk of stigma. They need to be taken to young people – put in their pathway – because young men are unlikely to go out of their way to seek professional help themselves (Davies et al. 2000, Rickwood et al. 2005). The first contact is the most critical phase of engagement. If the first contact is unsuccessful, the client will not proceed to further contacts (Slesnick et al. 2000). Third, psychologically distressed males not in full-time work or education have complex needs. For instance, they may face sub-standard housing, financial difficulties, and a lack of opportunities for developing independence and social engagement (Rowling 2006). They are in need of comprehensive, intersectoral support.

Osgood et al. (2010) examined the challenges faced by youth in the mental health system, the foster care system, the juvenile justice system, the criminal justice system and education. They pointed out that the services vulnerable populations among young people receive from these systems as children and adolescents often end abruptly during the transition to adulthood, even though the need for them continues and even if current life circumstances present obvious difficulties. The authors found problems in four areas: eligibility criteria that exclude youth from services that might benefit them, inadequate funding for transition services, a lack

of coordination across service systems, and inadequate training on young-adult developmental issues for service professionals.

2.2 Prevention of psychosocial problems and promotion of general well-being among young people

2.2.1 Concept of prevention in mental health

“To prevent” literally means “to keep something from happening”. However, there are different notions about that what this “something” is. Prevention has become a multidisciplinary science that applies research from many disciplines including psychology, public health, education, psychiatry, social work, medicine, nursing science, sociology, criminal justice, political science, law, communications and economics (Coie et al. 1993, Weissberg et al. 2003). This interdisciplinary character has given the field strength and credibility but has also complicated attempts to achieve consensus on a definition for prevention. Different approaches use various theoretical perspectives and strategies to prevent a broad spectrum of negative outcomes – including physical illness, mental disorders, violence, school failure, health-damaging risk behaviours, and poverty. Accordingly, there is considerable debate about the most appropriate terminology to use and the kinds of interventions to consider (Weissberg et al. 2003).

Mental health prevention in young people is commonly related to the prevention of a disorder, its relapses, the disability associated with it, or the risks for a disorder (WHO 2002b). In the prevention of youth problem behaviours, a main idea is to guide young people away from life paths that are likely to lead them towards future adjustment difficulties like chronic unemployment, entry into the adult criminal justice system but also to prevent mental and physical disease (Ferrer-Wreder et al. 2004).

The concept of prevention as it is used in public health has been taken seriously in mental health since the 1960s (Caplan 1964). In mental health prevention, until recently, most programmes were described with the terms primary, secondary and tertiary depending on whether the strategy prevents the disease itself, the severity of the disease or the associated disability. This terminology is tied to the public health tradition of disease prevention (Caplan 1964). According

to this concept of prevention, primary prevention seeks to decrease the number of new cases of illness (incidence), to act before any symptoms appear. Secondary prevention aims at reducing the prevalence of disorders by lowering the prevalence of new cases and shortening the duration of old cases. It aims to detect the symptoms at an early stage. Tertiary prevention seeks to decrease the amount of disability associated with an existing disorder or illness. It aims to reduce the severity, duration and complications of illnesses already diagnosed and treated. These terms are widely used but also commonly misused because of the complex interrelationships among their meanings (Bloom & Gullotta 2003). This classification may work well for medical disorders with a known etiology. However, the etiology of mental disorders is not exactly known. Mental problems often occurs due to the interaction of environmental and genetic factors at specific periods of life (WHO 2002b).

Another classification of prevention strategies was presented in the IOM report (Mrazek & Haggerty 1994). This framework originally depicted as a half circle, places prevention activities in the wider mental health intervention spectrum of prevention, treatment and maintenance. In this view, the term prevention was reserved for programmes occurring prior to the onset of a diagnosable disorder. The following three categories of prevention interventions were identified: universal, selective and indicated prevention interventions. Universal prevention was defined as an intervention that does not emphasise the difference between higher and lower-risk groups. The intervention is thought to benefit all individuals regardless of the level of risk. Selective prevention targets individuals or subgroups with known risk factors. In selective prevention, a subgroup is identified as being at-risk, not the individual. Indicated prevention targets individuals at risk for mental disorders.

Contrary to the so-called medical model of prevention, in interaction model problems are seen to develop through interaction between people and circumstances in a cumulative process (Upanne 1999). They are not precipitated linearly by single causes, but can be seen to result from a development process. In prevention it is therefore essential to anticipate development and prevent the process leading to problems by intervening in contributing factors and process events. Contributing factors are mostly seen to be psychological (individual) or social (environmental).

2.2.2 Concept of mental health promotion

Mental health promotion focuses on “improving the social, physical and economic environments that determine the mental health of populations and individuals” (Barry & Jenkins 2007, 2). The focus is on enhancing the strengths and competencies of individuals and communities, strengthening protective factors and promoting positive emotional and mental well-being as well as quality of life (Barry & Jenkins 2007).

In the framework by Mrazek & Haggerty (1994) mental health promotion was separated from mental health prevention. While universal prevention seeks to decrease risk and increase protection in order to prevent mental disorders, mental health promotion aims to promote wellness. Thus, the terms prevention and promotion have been seen to involve different processes (Mrazek & Haggerty 1994). However, such processes are not in all instances unrelated (Ferrer-Wreder et al. 2004, Vandiver 2009). While the framework from Mrazek and Haggerty (1994) does not include interventions focusing on promoting positive mental health or identify links across the different areas of prevention, treatment, maintenance and rehabilitation, Barry and Jenkins (2007) presented a modified mental health intervention spectrum as a circle also including mental health promotion (Figure 1). This circle depicts mental health promotion as the largest part of the circle given its universal relevance and indicates the unifying central area between the different interventions as that centered on strategies for promoting well-being and quality of life. Intersectoral linkage is the key to mental health promotion. Mental health promotion is relevant across the entire spectrum of mental health and social services – also including people experiencing mental health problems – and effective strategies require engagement with a broad range of service and community sectors (Rowling 2006, Barry & Jenkins 2007).

Over-emphasis in prevention research on risk has resulted in policy makers and researchers viewing young people negatively through the lens of risk and problems which can be stigmatising (Small & Memmo 2004, Rowling 2006). Mental health promotion refers to positive mental health, rather than mental ill health. A general problem is the prevailing understanding of mental health as the absence of mental disorder. Despite relatively high prevalence rates of mental disorders, the majority of adolescents do not meet the diagnostic criteria for any of them (WHO 2001). Focusing only on mental disorders does not give the whole picture of the state of mental health among young people.

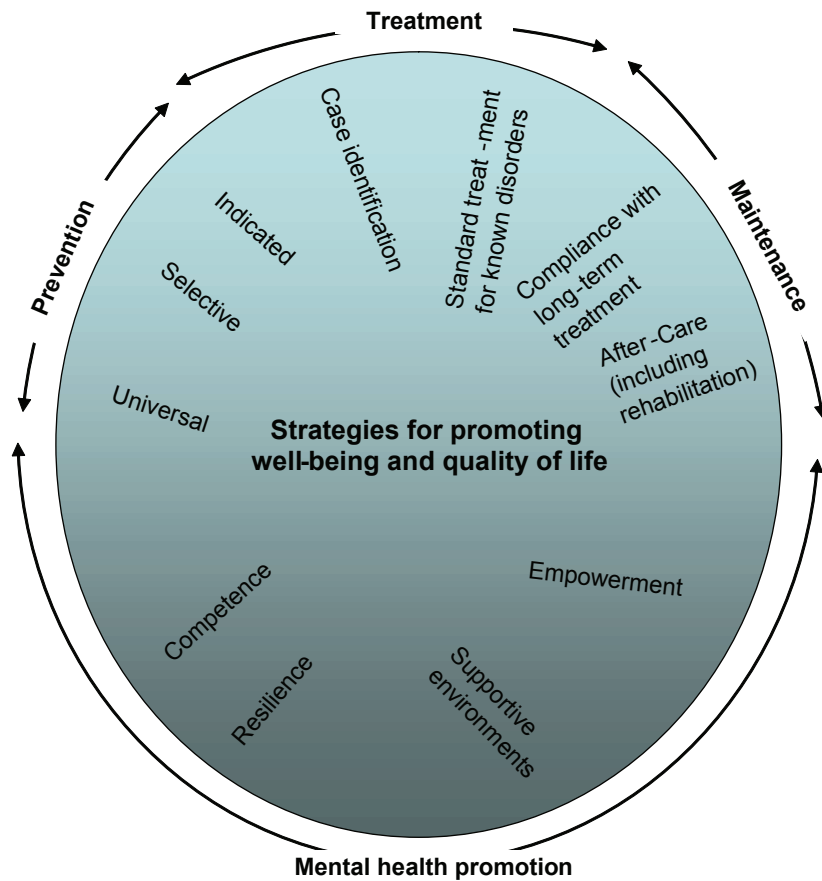


Figure 1. Modified mental health intervention spectrum (adapted from Barry 2001 and reprinted with permission of the International Journal of Mental Health Promotion)

According to Pittman et al. (2001), being problem-free is not the same as being fully prepared for or being fully engaged in life. It is undisputable that young people who are not drug abusers, school dropouts, depressed or suicidal, who are not antisocial or in prison may still lack the resources to become healthy adults and contributing citizens. All young people need a full array of basic services, consistent support and challenging opportunities. Social, health, vocational and civic competence are all needed to be fully prepared. Young people also need confidence, character, connection to family, peers and community, and opportunities to contribute to those around them. However, there have to be ways of ensuring that

those who need extra resources receive them without being labeled “resource poor”. “Targeting is fine, labeling is not” (Pittman et al. 2001, 27).

Youth development programmes have been identified as a good example of mental health promotion programmes among young people (Catalano et al. 2002). Their focus is on the promotion of resilience, life competencies, and recognition of positive behaviours and opportunities for prosocial involvement (Ferrer-Wreder et al. 2004). However, reframing mental health promotion by focusing on individualistic factors such as resilience and social competencies ignores the social context. The factors that impact on young people’s mental health are often beyond the individual’s control involving social and environmental conditions (Rowling 2006).

2.2.3 Settings and methods used in interventions targeted at young people

Research for several decades has shown that the promise and potential lifetime benefits of preventing mental, emotional, and behavioural disorders are greatest by focusing on young people and that early interventions can be effective in delaying or preventing the onset of such disorders (O’Connell et al. 2009). The settings, strategies and methods used aiming at preventing problems or promoting young people’s well-being are various. Most programmes among children and adolescents can be classified as family, school or community based (Ferrer-Wreder et al. 2004). Especially in the mental health promotion and positive youth development programmes, schools have been identified as the preferred location for programmes for adolescents and young people (Mental Health Europe 2001).

The methods used in the programmes may also vary. Interventions may use group and individual counselling sessions, group work, tutoring and coaching by peers, creation and distribution of resource packs and guidelines and seminars in schools (Mental Health Europe 2001). Jané-Llopis (2002) has classified intervention methods into five groups: behaviour (e.g. behaviour change, pleasant activities, modeling); cognition (e.g. cognitive restructuring, counselling, explanatory style training); competence (e.g. broad skills training, social resistance skills); education (e.g. direct instruction, lectures and workshops) and social support (e.g. network building, pro-fostering socialisation).

Many programmes and interventions preventing problems and promoting healthy and successful life of young people are specific to one particular behaviour. They focus on one single problem behaviour, for example violence or drug abuse (Derzon et al. 1999, Tobler et al. 2000, Gottfredson & Wilson 2003). However, the problems encountered in adolescence are very often the result of an interaction of several factors and cannot be determined by one single factor alone. There is evidence that multiple positive and negative behaviours are highly correlated and are predictive of each other (Durlak 1998, Degenhardt & Hall 2001, Griffin et al. 2001, Flay 2002). Because all adolescent behaviours are interrelated, prevention and health promotion programmes should address youth development in a comprehensive and coherent way (Flay 2002, Nation et al. 2003). Therefore, some interventions targeted at young people include a broader range of interrelated problem behaviours known to co-exist in adolescents at risk (Flay 2002). Noncategorical interventions have been seen to have a stronger scientific role in the developmental research literature and to use more efficient social resources (Catalano et al. 2002). As social influences (including families, schools, peers, communities) are particularly important during adolescence, the prevention and promotion approach needs to involve all these in an integrated and coherent way (Flay 2002).

2.2.4 Use of randomised controlled trials in assessing the efficacy of interventions

Randomised controlled trials (RCTs) are taken as the gold standard in evaluating healthcare interventions (Meldrum 2000, Schulz et al. 2010). In brief, the RCT is a study in which participants are allocated at random to receive one or other or no intervention/treatment under study. The most important advantage of RCTs is that they minimise allocation bias. Randomisation into intervention and control groups ensures that, on average, all other possible causes are equal between the study groups (Jadad 2007).

RCTs are used to examine the effect of interventions on particular outcomes but also to test the safety (or adverse effects) of interventions. The potential to cause harm is seldom recognised. However, various studies on emotional or behavioural problems and delinquency have shown that even well-intentioned interventions have been associated with adverse effects or poor outcomes (Cadman et al. 1987, Shaffer et al. 1990, Ploeg et al. 1996, Bisson et al. 1997, Harrington & Clark 1998,

Kellermann et al. 1998, MacIntyre & Petticrew 2000). For instance, Kellermann et al. (1998) noted that peer group counselling in which young people at-risk are brought together and encouraged to examine their own behaviour produced no positive effects and had the potential to be counterproductive. Universal interventions may indirectly harm to the extent that they cost money and this money could be spent on some other form of intervention targeted to those at higher risk. On the other hand, selective interventions also have potential to harm participating individuals. Since individuals are selected out because of the high risk they may suffer unnecessary stigmatisation (Harrington & Clark 1998, Small & Memmo 2004). Harrington and Clark (1998) point out that it is particularly important to investigate the safety and effectiveness of interventions for young people who are not actively seeking help, but who have been selected on the basis of risk factors.

Intervention researchers using the design of a RCT face many challenges. Small samples, lack of adequate control groups, substantial attrition, and lack of control for factors operating at other levels than the individual are common methodological limitations in intervention studies (Stattin & Kerr 2009).

The issue of attrition is commonly a problem in intervention studies (Stuart et al. 2008) and this is particularly the case among young people (Stattin & Kerr 2009), and most among young men (Kampman et al. 2002, Nosé et al. 2003). High drop-out rates are an inherent problem of most intervention studies and selection processes represent a constant threat to the generalisability of the findings. The number of participants may eventually be too small in order to detect small, but potentially important group differences in outcomes (Ogden et al. 2009). Attrition has been a problem in many studies on preventive or promotive interventions using RCT design (Gillham et al. 1995, Kerpelman et al. 2009, Wenzel et al. 2009). Studies have shown that the higher the risk related to psychosocial problems, the lower the success rate of integration following the intervention among young people (Clarke et al. 1993, Hüsler et al. 2005).

In research practice, ideal conditions for experimental studies are hardly possible. Most intervention studies have to accept limitations to outcomes and generalisations. Nevertheless they can be seen as important contributions to the growing body of knowledge of what works in the prevention of problems and in the promotion of health and competence among young people (Ogden et al. 2009). The Cochrane Collaboration (<http://www.cochrane.org/>) is an international organisation dedicated to producing up-to-date, accurate information about the effects of

various treatment methods in health care tested in RCTs available. The Campbell Collaboration (<http://www.campbellcollaboration.org/>) has emerged on the same model as Cochrane, but deals with crime and social policy producing systematic reviews of the effects of social interventions.

Besides rigorous outcome evaluation, prevention and promotion programmes should also include process evaluation which will help maintain the fidelity of a programme, and show why outcome effects are found or not found (Doughty 2005).

2.2.5 Factors associated with the effectiveness of interventions

A number of reviews and meta-analyses have demonstrated that prevention and promotion approaches targeted particularly at children and adolescents can be effective in reducing mental health problems and symptoms of mental disorders (Durlak & Wells 1997 and 1998, Jané-Llopis et al. 2005), aggression and antisocial behaviour (Wilson et al. 2003, Bor 2004, Gansle 2005), substance abuse (Hansen 1992, Tobler et al. 2000, Cuijpers 2002) and enhancing the coping skills (Kraag et al. 2006) of children and adolescents. Further, there is evidence that certain well-implemented early intervention programmes for young people entail significantly more benefits than costs (Bagley & Pritchard 1998, Aos et al. 2004, Foster et al. 2007, Zechmeister et al. 2008, Moodie & Fisher 2009).

Table 1 summarises the results of reviews of psychosocial interventions targeted at young people to prevent problems and promote well-being and factors associating with the efficacy of interventions. Reviews from different content areas are presented: primary prevention and mental health promotion, positive youth development, prevention of problem behaviour, as well as more specific reviews, such as reviews of prevention of illegal drug use or alcohol abuse, prevention of depression, prevention of juvenile suicide and employment or education focused programmes. Only reviews targeting young people were included. The initial collection of reviews was identified by means of computer searches (PsychoInfo, Medline), manual searches of multiple journals as well as inspection of the reference lists of each relevant report. Reviews with experimental or quasi-experimental research design were included only if they also provided information on factors associated with the efficacy of interventions.

All in all, psychosocial interventions targeted at young people can be effective in preventing problems as well as promoting general well-being and

positive development. In the meta-analysis by Durlak and Wells (1997) with 177 evaluation studies of primary prevention and mental health promotion programmes for children and adolescents most programmes achieved significant positive effects. Furthermore, the effects were found to be stable over time (up to one year) and to impact on functioning across multiple domains including intellectual, social and mental health. Interventions to prevent juvenile suicide seem to have the weakest evidence of effectiveness (Ploeg et al. 1996, Macgowan 2004, see also Kalafat 2003).

Most reviews related to programmes targeted at young people have children and young adolescents as target groups. Young adults (aged 18–29 years) have not received similar attention in the literature. Hadley et al. (2010) examined the role that programmes designed to serve young adults can play in promoting positive development and subsequent self-sufficiency in adulthood. Their review of 31 RCT studies showed that about half of the programmes evaluated (16 out of 31) had positive impacts on at least one outcome (in education, career, substance use or reproductive health).

Weissberg et al. (2003) summarised six characteristics of successful and effective prevention programming: 1) It uses a research-based risk and protective factor framework that involves families, peers, school, and communities as partners to target multiple outcomes, 2) it is long-term, age-specific, and culturally appropriate, 3) it fosters the development of individuals who are healthy and fully engaged by teaching them to apply social-emotional skills and ethical values in daily life, 4) it aims to establish policies, institutional practices and environmental supports that nurture optimal development, 5) it selects, trains, and supports interpersonally skilled staff to implement programming effectively and last, 6) it incorporates and adapts evidence-based programming to meet local community needs through strategic planning, ongoing evaluation, and continues improvement.

Table 1 presents factors and important principles enhancing the efficacy of interventions in different sectors according to the reviews included for this literature review:

Table 1. Reviews on preventive psychosocial interventions targeted at young people

Author (year)	Study design	Level of evidence	Summary of results
Primary prevention in mental health / mental health promotion			
Kavanagh et al. (2009)	Systematic review of 17 mental health promotion interventions based on cognitive behavioural therapy (CBT) delivered in schools to young people aged 11–19.	Randomised controlled trials.	Study showed a reduction in symptoms of depression (effect size 0.15–0.25), which was generally short term. Interventions for people with clinical risk factors or existing symptoms were more effective, with benefits lasting up to six months. CBT may be more effective for young people from families with middle to high socioeconomic status than for those from low socioeconomic backgrounds. Interventions of ten or more sessions were more effective than shorter interventions.
Hoagwood et al. (2007)	Analysis of 24 studies of school-based (from kindergarten to high school students) mental health interventions examining both mental health and educational outcomes.	Experimental or quasi-experimental research design.	The majority of interventions had a preventive focus, and targeted prosocial, aggressive, and antisocial behaviours. 15 of 24 studies demonstrated positive impact on both educational and mental health outcomes. The majority of the interventions that were effective in both domains were time-intensive as well as complex, with multiple targets (e.g. students, parents, and teachers) and across multiple contexts (school and home).
Wells et al. (2003)	A systematic review of 17 school-based mental health promotion programmes (from elementary school to high school students).	Experimental or quasi-experimental research design.	Positive evidence of effectiveness was obtained for programmes that adopted a whole-school approach, were implemented continuously for more than a year, and were aimed at the promotion of mental health as opposed to the prevention of mental illness. Long-term interventions promoting the positive mental health of all pupils and involving changes to the school climate are likely to be more successful than brief class-based mental illness prevention programmes.
Greenberg et al. (2001)	Review of 34 studies on universal, selective or indicated prevention programmes preventing mental disorders among children from ages 5 to 18.	Experimental or quasi-experimental research design.	Short-term preventive interventions produce time-limited benefits, at best, with at-risk groups whereas multi-year programmes are more likely to foster enduring benefits. Preventive interventions are best directed at risk and protective factors rather than at categorical problem behaviours. There is no single programme component that can prevent multiple high-risk behaviours. A package of coordinated, collaborative strategies and programmes is required in each community.

Durlak & Wells (1998)	Meta-analysis of 130 indicated preventive intervention mental health programmes for children and adolescents (mean age less than 19).	Experimental or quasi-experimental research design.	Programmes significantly reduce problems and increase competencies. In particular, behavioural and cognitive-behaviour programmes for children with subclinical disorders appear as effective as psychotherapy for children with established problems and more effective than attempts to prevent adolescent smoking, alcohol use, and delinquency.
Durlak & Wells (1997)	Meta-analysis of 177 evaluation studies of primary prevention and mental health promotion programmes for children and adolescents (0–18 years).	Experimental or quasi-experimental research design.	Most programmes achieved significant positive effects (effect sizes 0.24–0.93). The positive programme effects were found to be longlasting and to impact on functioning across multiple domains. Most categories of programmes had the dual benefit of significantly reducing problems and increasing competencies.
Tilford et al. (1997)	Review of 65 studies, of those 10 studies on interventions targeted at young people.	Experimental or quasi-experimental research design.	Interventions for young people include interventions oriented towards self concept and self-esteem, and the provision of coping skills to manage present and future life events. At-risk youth may benefit from tailored interventions.
Positive youth development			
Hadley et al. (2010)	Review of 31 studies on youth development programmes targeted at older youth (18–25 years old)	Randomised controlled trials.	About half of the programmes evaluated had positive impacts on at least one outcome (in education, career, substance use or reproductive health). Education and career programmes are effective especially for low income youth and for youth targeted from younger ages. Mentoring and case management can be effective at improving education and employment outcomes. Substance use and reproductive health programmes have not consistently been found to be effective.
Catalano et al. 2002	Review of 77 positive youth development programmes (for young people aged 6–20 years) in the US. Closely analysed 25 of these that were judged “effective” on a range of suitable criteria.	Experimental or quasi-experimental research design.	Positive youth development programmes can have benefits that are valuable in and of themselves (e.g. enhancing interpersonal skills, self-efficacy, quality of adult and peer relationships, academic performance, commitment to school) apart from their potential to prevent mental health problems. Characteristics for successful programmes were e.g. duration of at least nine months and well structured manuals and the fidelity of programme implementation.
Roth et al. (1998)	Review of 15 youth development programmes for children and adolescents aged 10–16	Experimental or quasi-experimental research design.	Programmes incorporating more elements of the youth development framework seem to show more positive outcomes. The evaluations support the importance of a caring adult-adolescent relationship. Longer-term programmes that engage youth throughout adolescence appear to be the most effective.

Prevention of problem behaviours

Farrington & Ttoft (2009)	Systematic review of 44 school-based programmes to reduce bullying and victimisation (students from preschool to high school)	Experimental or quasi-experimental research design.	Overall, school-based anti-bullying programmes are effective in reducing bullying and victimisation. Various programme elements and intervention components were associated with a decrease in both bullying and victimisation. Programmes need to be intensive and long-lasting enough, parent training/meetings and cooperative group work among experts reduce both bullying and victimisation.
Wilson & Lipsey (2007)	Meta-analysis of 249 school-based programmes for preventing or reducing aggressive or disruptive behaviour (students from preschool to high school).	Experimental or quasi-experimental research design.	School violence programmes were generally effective at reducing the more common types of aggressive or disruptive behaviour seen in schools. Multi-component comprehensive programmes did not show significant effects. Different treatment modalities produced largely similar effects. Effects were larger for better implemented programmes and those involving students at higher risk for aggressive behaviour. Additional benefits beyond those on problem behaviour were found, including e.g. reduced truancy, improvements in school achievement, social skills and reduction of anxiety and depression.
Wilson et al. (2001)	Meta-analysis of 165 school-based prevention programmes for prevention of crime, substance abuse, dropout/non-attendance, and other conduct problems among children and adolescents (from kindergarten to senior high school students)	Experimental or quasi-experimental research design.	Programmes were generally effective in preventing alcohol and drug use, school dropout / nonattendance and other conduct problems. Non-cognitive-behavioural counseling, social work, and other therapeutic interventions show consistently negative effects, whereas self-control or social competency promotion instruction that makes use of cognitive-behavioural and behavioural instructional methods show consistently positive effects. Programmes that targeted more at-risk populations had larger effects.
Derzon et al. (1999)	Meta-analysis of 83 school-based interventions for preventing and reducing violence (from kindergarten to 12. grade)	Experimental or quasi-experimental research design.	School-based programmes were generally successful in reducing violence and other antisocial behaviour. Programmes that experienced fewer implementation problems and lasted longer showed stronger effects than programmes which were not so lucky or long. As a proportion of variance explained, implementation, followed by risk status, was the strongest predictor of programme impact.

Dryfoos (1990)	Review of about 100 prevention programmes related to substance abuse, teen pregnancy, school dropout, and juvenile delinquency among young people.	Experimental or quasi-experimental research design.	The key characteristics associated with successful programmes: the interrelatedness of problems, the need for early, sustained interventions, the importance of one-on-one intensive attention, and the importance of basic educational skills, social skills, and experiential education for gaining the necessary competencies to function in the adult world. Focus on broad, comprehensive, communitywide approaches with a heightened focus on schools.
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Prevention of illegal drug and alcohol abuse

Foxcroft et al. (2003)	Review of 56 studies on psychosocial and educational interventions aimed at the primary prevention of alcohol abuse by young people (10–25 years)	Experimental or quasi-experimental research design.	20 of the 56 studies showed evidence of ineffectiveness. Whether interventions focused on alcohol alone, or alcohol as one of a number of drugs, appeared to have no effects on outcome in the studies reviewed. Community interventions also need to be considered by policy makers as the potential benefit goes beyond youth.
Gottfredson & Wilson (2003)	Review of 94 studies of school-based prevention activities that examined alcohol or other drug use outcomes (school grades 1–12).	Experimental or quasi-experimental research design.	At least for programmes teaching social competency skills, targeting higher risk youths may yield stronger effects than targeting the general population. Programmes of relatively brief duration (less than 4,5 months) are generally as effective as those of longer duration.
Tobler et al. (2000)	Meta-analysis of 207 universal school-based drug prevention programmes (school grades 6–12).	Experimental or quasi-experimental research design.	Non-interactive lecture-oriented prevention programmes that stress drug knowledge or affective development show small effects. Interactive programmes that foster development of interpersonal skills show significantly greater effects that decrease with large-scale implementations.

Prevention of depression

Calear & Christensen (2010)	Systematic review of 42 school-based prevention and early intervention programmes for depression (children and adolescents aged 5–19).	Randomised controlled trials.	Half of the trials reported significant reductions in depressive symptoms at follow-up. Indicated programmes, which targeted students exhibiting elevated levels of depression, were found to be the most effective, compared to universal and selective programmes. The programmes are more effective in the hands of mental health professionals or the programme developers.
Spence & Shortt (2007)	Review of 12 universal, school-based interventions designed to prevent the development of depression in children and adolescents (aged 7–18)	Experimental or quasi-experimental research design.	Relatively brief programmes, that focus specifically on enhancing individual skills and characteristics of the individual in the absence of environmental change, may be insufficient to produce lasting effects in the prevention of depression among children and adolescents.

Horowitz & Garber (2006)	Meta-analysis of 30 interventions for prevention of depressive symptoms in children and adolescents (-21 years old).	Randomised controlled trials	Both selective and indicated programmes were found to be more effective than universal programmes at follow-up. Effect sizes for selective and indicated prevention programmes tended to be small to moderate. No effect was found for length of intervention.
Merry et al. (2004)	Review of 13 psychological and/or educational interventions for the prevention of depression in children and adolescents (aged 5–19).	Randomised controlled trials	Psychological interventions were effective compared with non-intervention immediately after the programmes were delivered. There was no evidence of effectiveness for educational interventions. The effects were similar for both, targeted and universal programmes and for both high and low risk groups in universal interventions. Reports of effectiveness for boys and girls were different.
Prevention of suicidality			
Macgowan (2004)	Systematic review of 10 preventive psychosocial interventions for youth suicidality (aged 10–17)	Experimental or quasi-experimental research design.	Most of the interventions were successful in reducing suicidality. However, no intervention met the criteria of well established and only two were probably efficacious. Family communication and problem solving were more likely to reduce suicidal ideation than were the comparison conditions, but only among a sample without major depression. Short-term interventions in outpatient settings was one common feature for effective interventions. Research evidence remains weak.
Ploeg et al. (1996)	Systematic review of 11 studies on adolescent suicide prevention curricula programmes (school grades 8–12)	Experimental or quasi-experimental research design.	There is currently insufficient evidence to support curriculum-based suicide prevention programmes. There may be both beneficial and harmful effects of the programmes on students. On study found an increase in hopelessness and maladaptive coping for males following the intervention.
Employment or education focused programmes			
Bloom (2010)	Review of 11 employment of education-focused programmes serving high school dropouts.	Randomised controlled trials.	Some programmes, especially those that offered paid work opportunities, generated significant increases in employment or earnings in the short term, but none of the studies found lasting improvements in economic outcomes. Several of the studies also measured non-economic outcomes (crime involvement, drug use, health, and psychosocial development) with mixed results.

2.2.5.1 Primary prevention in mental health / mental health promotion

Reviews in the sector of primary prevention and mental health promotion showed that most programmes had the dual benefit of reducing problems and enhancing competencies (Durlak & Wells 1997 and 1998). Preventive interventions are best directed at risk and protective factors rather than at categorical problem behaviours (Greenberg et al. 2001). According to Durlak (1998), those working with prevention in different fields must realise that the convergence of their approaches in targeting common risk and protective factors means that the results of their programmes are likely to overlap. Multiple positive and negative behaviours are highly correlated and predictive of each other (Durlak 1998, Degenhardt & Hall 2001, Griffin et al. 2001, Flay 2002). For instance, successful prevention of illegal drug use is also likely to have positive outcomes in other areas of young people's lives (Botvin & Griffin 2004).

The reviews show that, in particular, behavioural and cognitive-behaviour programmes (Durlak & Wells 1998) and interventions targeted at young people with clinical risk factors seemed to be effective (Kavanagh et al. 2009). At-risk youth may benefit from tailored interventions (Tilford et al. 1997). Further, longer term programmes achieve more positive effects than programmes of brief duration (Greenberg et al. 2001, Wells et al. 2003, Kavanagh et al. 2009). A package of coordinated, collaborative strategies across multiple contexts is recommended (Greenberg et al. 2001, Wells et al. 2003, Hoagwood et al. 2007).

2.2.5.2 Positive youth development

Positive youth development programmes can have a positive impact in enhancing interpersonal skills, self-efficacy, quality of adult and peer relationships, academic performance and commitment to school, career as well as preventing mental health problems and substance abuse. Characteristics for successful programmes were longer duration of the programmes (Roth et al. 1998, Catalano et al. 2002), caring adult-adolescent relationship (using methods such as mentoring and case-management, Roth et al. 1998, Hadley et al. 2010), as well as fidelity of programme implementation with structured manuals (Catalano et al. 2002). Besides, programmes incorporating more elements of the youth development framework seem to have more positive outcomes (Roth et al. 1998).

Catalano et al. (2002) point out that effective youth interventions have to include 1) promoting development to foster positive youth outcomes, 2) focusing on the whole adolescent without categorising the person based for example on the nature of his/her problems, 3) focusing on achievements specific to developmental tasks and stages and 4) focusing on interactions with family, school, neighborhood, societal and cultural contexts.

2.2.5.3 Prevention of problem behaviours

The reviews on the prevention of problem behaviours showed that programmes were generally effective in preventing alcohol and drug use, school dropout / non-attendance, violence, bullying, aggressive or disruptive and antisocial behaviour in schools. Additional benefits over and about those on problem behaviour, including e.g. reduced truancy, improvements in school achievement, social skills and reduction of anxiety and depression were found in the review by Wilson & Lipsey (2007). The key characteristics associated with successful programmes were the use of cognitive-behavioural and behavioural instructional methods (Wilson et al. 2001), targeting at young people at risk (Derzon et al. 1999, Wilson et al. 2001, Wilson & Lipsey 2007), intensive one-on-one attention (Dryfoos 1990), skill training (Dryfoos 1990), longer duration of the programmes (Derzon et al. 1999, Farrington & Ttofi 2009), successful programme implementation (Derzon et al. 1999, Wilson & Lipsey 2007) as well as focus on broad, comprehensive, community-wide approaches with a heightened focus on schools (Dryfoos 1990). However, in the review by Wilson & Lipsey (2007), multi-component comprehensive programmes did not show significant effects.

Comprehensiveness can be understood in two ways. First, various settings and strategies can be included. Second, comprehensiveness can be understood as addressing various risk and protective factors relevant to the individuals. According to Dryfoos (1990), enhancement of early schooling and the prevention of school failure should be given high priority not only by those who want to lower the dropout rate, but also by those interested in preventing substance abuse or conduct problems.

2.2.5.4 Prevention of drug and alcohol abuse

In the review by Foxcroft et al. (2003) 20 out of the 56 studies showed evidence of ineffectiveness. Interventions focused on alcohol alone, or alcohol as one of a

number of intoxicants, appeared to have no effects on outcome in the studies reviewed. The review by Tobler et al. (2000) showed that non-interactive lecture-oriented prevention programmes stressing drug knowledge or affective development showed small effects. Interactive programmes that foster the development of interpersonal skills showed significantly greater effects that decrease with large-scale implementations. Gottfredson & Wilson (2003) found that targeting higher risk youth may yield stronger effects than targeting the general population. The duration of the programme did not seem to have an impact on the effectiveness.

2.2.5.5 Prevention of depression

The reports of factors having a positive impact on the effectiveness of the programme were partly contradictory in the prevention of depression among young people. Calcar & Christensen (2010) found that indicated programmes, which targeted students exhibiting elevated levels of depression, were found to be the most effective compared to universal and selective programmes. Similar findings were also reported in the review by Horowitz & Garber (2006). However, Merry et al. (2004) found that the effects for both targeted and universal programmes were similar. The results related to the duration of the programme were likewise contradictory. Horowitz & Garber (2006) found no effect for duration of intervention, whereas Spence & Shortt (2007) found that relatively brief programmes may be insufficient to produce lasting effects. Programmes preventing depression seem to be more effective in the hands of mental health professionals or the programme developers (Calcar & Christensen 2010).

2.2.5.6 Prevention of juvenile suicidality

According to Ploeg et al. (1996) and Macgowan (2004), research evidence on the effectiveness of preventive psychosocial interventions on juvenile suicidality remains weak. Family communication and problem solving seemed to reduce suicidal ideation, but only among a sample without major depression. Effective interventions were usually short-term interventions in outpatient settings. There may also be harmful effects of the programme (Ploeg et al. 1996). For instance, suicide prevention programmes may harm those not at risk by upsetting some adolescents or even normalising suicidal behaviour (Ploeg et al. 1996, Harrington & Clark 1998).

2.2.5.7 Employment or education focused programmes

The review by Bloom (2010) on employment or education-focused programmes for high school dropouts showed that especially programmes offering paid work opportunities generated significant increases in employment or earnings in the short term. However, none of the studies found lasting improvements in economic outcomes. Several of the studies also measured non-economic outcomes (crime involvement, drug abuse, health, and psychosocial development) with mixed results. The review of Hadley et al. (2010) showed that education and career programmes were effective especially for low income young people and for those targeted at younger ages.

In summary, there seem to be some important common principles enhancing the efficacy of interventions targeted specially at young people. First, successful interventions targeted at young people include the promotion of positive as well as prevention of negative actions, feelings and thoughts (Dryfoos 1990, Durlak & Wells 1997, Tobler et al. 2000, Wilson et al. 2001, Catalano et al. 2002, Gottfredson & Wilson 2003, Weissberg et al. 2003).

Second, comprehensiveness seems to be one key factor in many interventions targeted at young people (Dryfoos 1990, Greenberg et al. 2001, Catalano et al. 2002, Nation et al. 2003, Spence & Shortt 2007). Flay (2002) points out that because all adolescent behaviours are interrelated, prevention and health promotion programmes should address all adolescent behavioural development in a comprehensive and coherent way. It is important to support young people comprehensively rather than focus on a single symptom or behavioural problem (Dryfoos 1990, Durlak 1998).

Third, a common characteristic for successful youth programmes is that they are often described as family-like environments. In such an environment adolescents can feel safe, and get support and empowerment from caring adults (Roth et al. 1998). Youth likely benefit from mentors and case managers who provide stable, caring, positive relationships and one-on-one intensive attention that might sometimes otherwise be lacking (Dryfoos et al. 1990, Roth et al. 1990, Hadley et al. 2010).

Fourth, interventions targeting higher risk youth may yield stronger effects than universal interventions (Derzon et al. 1999, Greenberg et al. 2001, Wilson et al. 2001, Gottfredson & Wilson 2003, Horowitz & Garber 2006, Wilson & Lipsey 2007, Kavanagh et al. 2009, Callear & Christensen 2010, Hadley et al. 2010) However, the review by Merry et al. (2004) of interventions to prevent depression showed that the

effects of interventions were similar for both, targeted and universal programmes, as well as for both high and low risk groups in universal interventions.

Fifth, various reviews show that longer programmes achieve more positive effects than programmes of brief duration (Roth et al. 1998, Derzon et al. 1999, Catalano et al. 2002, Spence & Shortt 2007, Farrington & Ttofi 2009, Kavanagh et al. 2009). However, some reviews suggest that programmes of relatively brief duration can also be effective (Gottfredson & Wilson 2003, Macgowan 2004).

Sixth, positive programme effects are commonly associated with good implementation and well trained staff (Derzon et al. 1999, Catalano et al. 2002, Wilson & Lipsey 2007, Caelear & Christensen 2010).

These principles explaining the efficacy of interventions are similar to the recent findings of Weare and Nind (2011) on effective mental health promotion programmes in schools. Their review consisting of 52 reviews found the following principles to be characteristic of more effective interventions: focus on higher risk youth; teaching skills and developing competence; positive, holistic, multi-level and active approach; involvement of parents and families; specialist staff delivering the programme, and longer and more intense interventions.

2.2.6 Implementation and dissemination of interventions

Numerous preventive interventions have been tested empirically and shown to be effective in preventing psychosocial problems and promoting well-being among young people. These findings have encouraged communities to adopt and adapt preventive interventions that have proven effective. However, questions still revolve around the problem of how to best integrate useful interventions into practice. Prevention practice will reach full maturity only when known effective programmes are implemented and disseminated with integrity. This is the focus of dissemination and implementation research (Greenhalg et al. 2004).

The terms used in implementation and dissemination research are often confusing. In general, dissemination is the intentional spreading of innovations from the originators to the intended users. Dissemination includes active and planned efforts to persuade target groups to adopt an innovation whereas diffusion refers to the passive spread of innovations (Greenhalgh et al. 2004) Implementation is about putting the innovations to use. Very often implementation, however, is understood as

the degree to which treatment is delivered as intended (Durlak 1998, Domitrovich & Greenberg 2000).

Although the evidence base of prevention programmes is growing rapidly, the knowledge regarding how programmes are implemented in real-world conditions is poorly developed. The majority of clinical trials are conducted without any source of implementation information. Durlak and Wells (1997) found that less than 5 per cent of over 1 200 published prevention studies provide data on programme implementation.

Further, programmes are not always implemented in the same way or with the same quality as when they were first evaluated. When communities replicate programmes, the quality of delivery may vary widely and aspects of the programme will be altered from the model to match community characteristics (Dane & Schneider 1998, Domitrovich & Greenberg 2000, Greenberg et al. 2005). It is likely that all evidence-based interventions undergo substantial reinvention in the field.

There has been a debate in the literature regarding the degree to which this type of reinvention impairs or improves programme effectiveness. Some researchers are concerned that efficacy is compromised if programmes are adapted to the specific features of the adopting sites. Others have argued that implementation quality may be compromised if service providers are not able to modify programmes to meet the needs of the target population (Andreasson et al. 2000). Adaptations and changes may be both necessary and effective, but without information on these changes it is impossible to determine whether they have improved or undermined the effectiveness of the programme (Domitrovich & Greenberg 2000). When reinvented programmes differ substantially from the original models, new outcome trials may be necessary to determine if the adapted programmes are still effective. At least process evaluations should be conducted to determine if the target population is still being reached sufficiently (Rebschook et al. 2006).

According to Dearing (2008), the classical diffusion model focused on individuals as the units of adoption. However, current dissemination research and practice are better characterised by tests of interventions that involve complex organisations as the units of adoption, and focus on implementation issues. It is important to communicate why an intervention works, not just what it is. In the “guided adaptation” underlying the causal components of a programme as well as examples for operationalising these causal components are explicated in practice. The aim is to clarify to implementers which aspects of a demonstrated programme

are crucial to its observed effect and which components are peripheral and more likely changeable without deleterious effects.

Research is needed to identify the specific elements of evidence-based programmes that are essential to programme success and those elements that may be modified (Price et al. 1989). Most programmes and models are only beginning to enter this stage of research. Before broad dissemination is possible, research should be undertaken specifically to understand the core elements of the programme. The study by Rebchook et al. (2006) on the dissemination and initial implementation of an HIV prevention programme showed that dropping core elements adversely affects the intervention's success. Therefore, it is essential to involve researchers and programme developers in the implementation process to ensure that implementation is faithful to the evidence base and that an effective and feasible implementation strategy is offered to stakeholders (Smith et al. 2008).

Besides sustaining core elements, other factors may also contribute to the success of programme implementation. Gask et al. (2008) concluded the following features to be essential in the dissemination and implementation of suicide prevention training in one Scottish region: the multi-dimensional support provided from the host organisation and the favorable policy environment, openness to local adaptation, clinical relevance and utility. These appeared to interact in a dynamic and recursive relationship. Timing may also play an important role in the success of programme implementation (Dearing 2008). Sometimes it is essential for intervention planners to wait for windows of opportunity when the larger media or policy environment is receptive to the types of change advocated by the intervention.

Greenberg et al. (2005) have reported strategies for practitioners and researchers to facilitate effective programme delivery in school settings. These strategies enacted in the pre-adoption, delivery and post-delivery phases are also appropriate in other settings. In the pre-adoption phase it is essential to involve stakeholders in the decision-making process, when selecting a programme and planning its implementation. Before implementation, implementers must receive adequate training. Further, programme implementation is greatly enhanced by a supportive, problem-solving atmosphere that allows for discussion and facilitates the resolution of difficulties. In the delivery phase, once programme implementation has begun, it is necessary to monitor programme quality carefully on an ongoing basis. This monitoring entails assessing the implementers' skills and satisfaction.

Further, it is essential to provide them with emotional and practical support. Information gathered in the early implementation phases should be used to make decisions about the programme's ongoing viability and to identify and implement ways to improve its overall quality. In the post-delivery phase, if the programme is successful, steps should be taken to integrate it more extensively into the existing structure. A wide range of dissemination strategies should be considered to inform the community about the programme and its findings. It is also useful to provide feedback to programme developers regarding the intervention and the factors that affected the implementation quality of the projects (Greenberg et al. 2005).

2.3 Summary of the literature

Adolescence and young adulthood are critical periods developmentally in the lifespan. Adolescents and young adults are in a key phase of establishing independent identity, making educational and vocational decisions and lifestyle choices as well as forming interpersonal relationships. All of these have major long-term influences on the individual, particularly in terms of factors that influence mental health and well-being. Young people are particularly vulnerable to social exclusion, notably in the transition stage between education and employment.

In spite of the fact that most young people are satisfied with their lives and doing well, there is a sizeable minority of young people with various psychosocial problems. Very often problems encountered in adolescence are a result of the interaction of several factors and cannot be determined by one single factor alone (Flay 2002). Problems related to psychosocial well-being tend to accumulate over time (Rönkä & Pulkkinen 1995, Deater-Deckard et al. 1998). Men have cumulative problems more commonly than women, and the accumulated problems tend to persist from early adulthood to adulthood (Rönkä 1999).

Particularly young men with wide range of psychosocial problems are often beyond the reach of health and social services. Studies have suggested that exemption from military service is strongly associated with various psychosocial problems and that this group of young men could be in need of psychosocial support. Young men often underestimate the need for outside help and attempt to deal with their problems on their own. Men are less likely than women to seek professional help for depression, substance abuse, physical disabilities and stressful life events

(Biddle et al. 2000, Sourander et al. 2004, Tylee & Walters 2004, Rickwood et al. 2005). Those young people most likely to need help are often least likely to seek it (Hüsler et al. 2005).

A number of reviews and meta-analyses have demonstrated that prevention and promotion approaches can be effective in reducing mental health problems and symptoms of mental disorders (Durlak & Wells 1997 and 1998, Jané-Llopis et al. 2005), aggression and antisocial behaviour (Wilson et al. 2003, Bor 2004, Gansle 2005), substance abuse (Tobler et al. 2000) and increasing the coping skills (Kraag et al. 2006) of children and adolescents. The effects have been confirmed to be stable over time (Jane-Llopis 2002). Furthermore, there is credible evidence that certain well-implemented early intervention programmes for young people can achieve significantly more benefits than costs (Bagley & Pritchard 1998, Foster et al. 2007, Zechmeister et al. 2008). However, prevention and promotion practice will reach its full maturity only when demonstrably effective programmes are implemented and disseminated with integrity.

Accumulation of problems poses a challenge for the development of interventions targeted at young people. When problems accumulate, it should be possible to support the young person comprehensively, rather than focusing on one single symptom or problem behaviour. Preventive interventions are best directed at risk as well as protective factors. Besides, effective youth interventions should also focus on achievements specific to developmental tasks and stages (Dryfoos 1990, Hodgson et al. 1996).

3. Aims of the study

The purpose of this study was twofold: to investigate the psychosocial well-being of young men exempted from compulsory military or civil service and to assess the effects of the Time Out! Getting Life Back on Track support programme targeted at this group of men.

The aims of the study were:

- I. to analyse the psychosocial well-being and the accumulation of problems among young men exempted from compulsory military or civil service (Study I).
- II. to examine the associations between suicidal ideation and childhood as well as current adversities among men exempted from compulsory military or civil service (Study II).
- III. to compare the characteristics of men who did or did not adhere to the Time Out! Getting Life Back on Track support programme (Study III).
- IV. to assess the effects of the Time Out! Getting Life Back on Track programme (Study IV).

4. Subjects and methods

4.1 Compulsory military or civil service in Finland and the process of exemption from the service

The subjects of this study were young men exempted from compulsory military or civil service in Finland.

Military or alternative civil service – military service lasting from 6 to 12 months and civil service lasting 12 months – is obligatory for all Finnish men. About 75 per cent of each annual age cohort carry out their service (Parkkola 2011a). At the age of 18 years, every Finnish man undergoes a preliminary assessment of health and fitness for military or alternative civil service. The purpose of the examination is to make a preliminary assessment of their general health and fitness for service.

There were five fitness classes in the Finnish Defence Forces at the time of the data collection of this study. Category A means that a man is capable of field service and category B means that he can serve in service troops. In category C the conscript is exempted from service during peacetime. Category D indicates permanent exemption and category E temporary exemption for up to 3 years. The decision on the classification is based on the International Statistical Classification of Diseases and Related Health Problems (ICD-10). Recently, the number of categories has been changed to four (A, B, C, and E).

At the call-ups, more than one in ten is found to be permanently or temporarily unfit for service. Approximately 40 per cent of these cases are due to mental disorders (Parkkola 2011a). According to Multimäki and colleagues (2005, 2008) exemption from military service at call-up is strongly associated with a wide range of childhood problems, psychiatric symptoms (both internalising and externalising), alcohol and illegal drug use as well as problems in social functioning. Temporary exemption particularly seemed to be strongly associated with psychosocial problems.

Moreover, about 15 per cent of conscripts fail to complete their military service (Parkkola 2010), approximately 40 per cent of these because of mental health problems (Parkkola 2011b). Most attrition occurs during the first two weeks, and most of the later attrition during the first 8 weeks of service (Salo 2008). Failure in the compulsory conscript service has been found to be associated with the conscript's intent to stay or quit, education level and schooling experiences, expected adjustment, criminal background, physical health, quality of civilian relationships, and attitudes towards military service (Salo 2008).

4.2 Study design and data collection

The data were collected between 2004 and 2005 within the Time Out! Getting Life Back on Track project. All men living in the cities of Helsinki and Vantaa, who were exempted from military or civil service were invited to take part in the study (fitness classes C, D, E). The target group consisted of men who were either exempted from service at call-up or who had failed to complete their service. At the call-ups, altogether 356 men were exempted from service. The research assistants were able to contact 260 of these at the call-up. Of them, 75 men (29 %) refused to participate in the study. The number of men failing to complete their service was 431 and the research assistants contacted 256 of them. Of these, 85 men (33 %) refused to participate in the study. Thus, the sample of men exempted from military or civil service consisted altogether of 356 men, of whom 185 were exempted from service at call-up and 171 failed to complete their service.

Data on 440 men conscripted into service at call-ups (Fitness class A, B) were used for comparison. The data were gathered at call-ups in Helsinki and Vantaa on randomly selected days.

The data were collected through questionnaires and interviews and by gathering register data. The participants were given a baseline questionnaire at the call-up or when discontinuing the military or civil service. The respondents returned the baseline questionnaires in sealed envelopes. The men exempted from service were randomly assigned either to an intervention group (n=182) or control group (n=174). Randomisation was carried out using SAS software programme by a person not involved in the support programme. The men in the intervention group

were invited to join the Time out! Getting life Back on Track support programme. Those in the control group were recommended to contact health and social services in case they had psychosocial problems and needed professional help.

A follow-up questionnaire was mailed to all respondents one year after the baseline questionnaire. A second-reminder questionnaire was sent to those who had not responded within two weeks. After this (within two weeks), the research assistant tried to contact the non-respondents by phone in order to motivate them to complete the questionnaire or to interview them over the phone. The follow-up questionnaire was returned by 99 men in the intervention and by 80 men in the control group. The response rate of the follow-up was 54 per cent in the intervention group and 46 per cent in the control group.

Data concerning the intervention was gathered by means of questionnaires from the counsellors of the programme at the beginning of the support programme, after each counselling session and after completion of the programme. Further, the counsellors documented every contact with the client, likewise every contact attempt.

After completion of the support programme, the project assistant interviewed the programme participants over the phone.

The study design and recruitment of the men for the study is presented in figure 2.

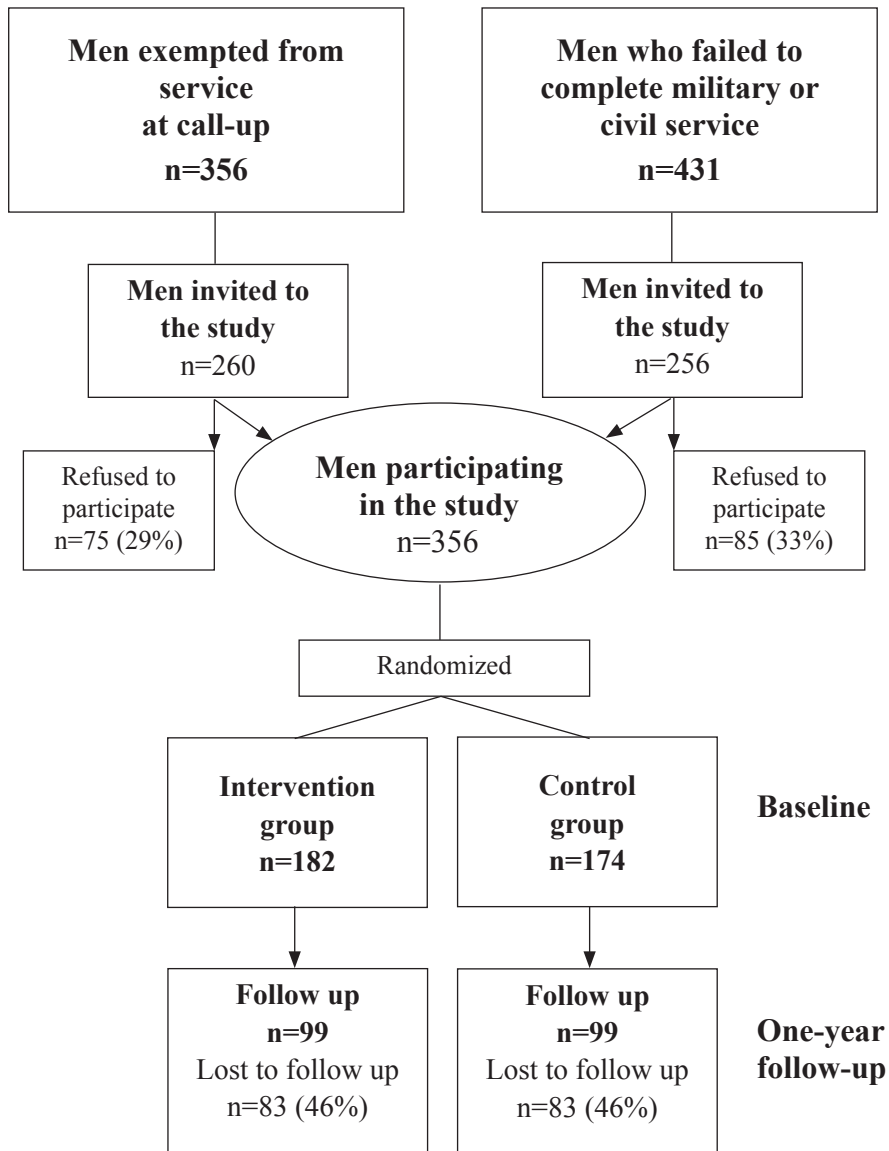


Figure 2. Flow chart

4.3 Intervention

Respondents in the intervention group were offered a personal counsellor. There were 19 counsellors providing the service, all professionals working in municipal social and health services and providing the manualised (Stengård et al. 2008c) support programme as part of their basic duties. The counsellors were specifically trained for the intervention. The training lasted three days and included also eleven group supervision sessions.

The Time Out! Getting Life Back on Track support programme is based on an interactional model for prevention (Upanne 1999). Thus, problems are seen to develop through interaction between people and circumstances in a cumulative process. Therefore, it is essential to anticipate development and prevent the process from leading to problems by intervening in contributing factors and process events. The programme was based on four key principles: 1) comprehensive support considering the developmental stage and tasks of the adolescent; 2) integration of preventive and promotive strategies; 3) client oriented, tailored support; and 4) avoiding stigmatisation when seeking help.

The counsellors tried to contact the client within 2 weeks, mainly by telephone. The counsellors were given instructions to make maximum effort possible to contact the client. Besides telephoning, they also used text messaging (SMS), e-mail and letters. The aim was to make an appointment at the first contact and to meet every man in the intervention group.

At the first meeting, the counsellors used a structured interview to discuss the current life situation of the young men, including topics such as housing, access to work and school, mental health, substance abuse and general well-being. The meetings took place at the workplace of the counsellor or elsewhere if the client so wished. The intervention included the following phases: defining the present life situation, setting practical aims for the intervention, finding solutions and actions for concerns in question, promoting the use of protective and empowering factors in the life of the young man and making plans for the future. The counsellor also referred the client to other employment, social and health services as needed.

4.3.1 Implementation, dissemination and the current state of the programme

The implementation strategy of the Time Out! Getting Life on Track programme comprised four phases. First, the programme was developed together with experts and key stakeholders of different sectors as well as professionals working as programme providers in the municipalities. A written manual (Stengård et al. 2008c) was produced including a detailed programme description. A national advisory board was established at the very beginning of the project. The members of the board were clinical and administrative leaders and policymakers in health and social services and in the Defence Forces. The Board's function was to serve in an advisory and problem-solving capacity and to monitor progress at every stage of the project. In the second phase a randomised controlled trial was conducted to assess the effect of the programme (Study IV). After the study, the programme was piloted and evaluated in several municipalities representing different operational environments. In the fourth phase nationwide dissemination of the programme was introduced including programme evaluation. The programme is currently running in half the municipalities in Finland (N=342) and accesses 60 per cent of an age cohort of Finnish young men at military call-ups.

There were several factors enhancing the success of the implementation and dissemination process. First, all stakeholders were involved in the planning, decision making and training from the very beginning. This greatly increased the acceptability of the programme in the dissemination process. Second, the programme developers were responsible for the training of counsellors and implementors nationwide. So far, over 300 counsellors and 24 implementors / facilitators have been trained during the implementation process. The implementor training was in a five-day training format and also included homework. Support whenever needed was provided to implementors by the programme developers. Guided adaptation (Dearing 2008) was used by implementing the programme in a municipality. Programme providers were instructed which aspects of the programme are central to its observed effect and which components are peripheral and more likely changeable without deleterious effects.

Evaluation research played an important role in the implementation and dissemination of the Time Out! Getting Life Back on Track programme. Evidence of the psychosocial well-being of the target group and the efficacy of the programme

was presented for policymakers and practitioners. Process evaluation was conducted in 2008 and 2010 (Appelqvist-Schmidlechner et al. 2011).

In addition to these important factors enhancing the success of the dissemination of the programme, the programme developers also aimed to influence policymaking in order to enable the institutionalisation of the programme nationwide. The Time Out! Getting Life Back on Track support programme is now included in two government policy programmes in Finland: the policy programme for health promotion and the policy programme for the well-being of children, youth and families. Thus the process of implementation and dissemination required continuous work at three levels: in research, at a practical level in municipalities, and at policy level.

4.4 Measurements

The following socio-demographic characteristics were gathered with the questionnaires: age, marital status (single, partner), living conditions (alone, with parents/family, other, homeless), education (comprehensive school, upper secondary school) and employment (employed, student, not in employment or education). The questionnaire included also following measurements.

Psychological well-being

Psychological distress was measured with the 12-item version of the General Health Questionnaire (GHQ-12, Goldberg & Williams 1991). The standard GHQ scoring method (0-0-1-1) was applied, counting only the last two responses as pathological (Goldberg & Williams 1991). The summation of answers to all items yielded an individual sum score ranging from 0 to 12. A score of more than three was the cut-point for psychological distress as in earlier studies (Holi et al. 2003, Koskinen et al. 2005, Winzer & Bergsten Brucefors 2007). The Cronbach's alpha coefficient of the scale was 0.914.

Self-confidence and contentment were measured using a questionnaire developed by Pulkkinen (Pulkkinen & Rönkä 1994). Five questions in this questionnaire were related to self-confidence of respondent, which included trust in one's own power and indicated positive internal control over development. Two questions were related to contentment, consisting of satisfaction with present

achievements without further developmental goals. The responses were 1="strongly disagree", 2="disagree", 3="agree" and 4="strongly agree". The summation of answers yielded a score ranging from 5 to 20 for self-confidence and from 2 to 8 for contentment. The Cronbach's alpha coefficient for self-confidence was 0.768 and for contentment 0.765.

Suicidal ideation was measured with a question "Have you ever in your lifetime seriously thought of killing yourself? The answers were "no, never", "yes, the last time less than six months ago", "yes, the last time 6–12 months ago" and "yes, the last time more than 12 months ago". The question was used in the Finnish Health 2000 survey (Pirkola et al. 2005a).

Social well-being

Alcohol-related problems were assessed using the Cutdown, Annoyed, Guilt, Eye-opener (CAGE) questionnaire (Ewing 1984). The CAGE questionnaire is one of the most widely used self-report instruments to screen for alcohol problems (Maisto et al. 1995). The questionnaire included four questions: 1) "Have you ever felt the need to cut down on your drinking?"; 2) "Have you felt annoyed by criticism of your drinking?"; 3) "Do you feel guilty about your drinking?" and 4) "Have you ever had a drink in the morning to get rid of a hangover?". The responses were 1="Yes" and 0="No". The summation of answers yielded an individual sum score ranging from 0 to 4. At least two "Yes" responses indicated that the respondent may have alcohol problems. The Cronbach's alpha coefficient of this scale was 0.760.

Leisure-time activity was measured with a questionnaire consisting of 11 commonly practised leisure-time activities (Table 7). The questionnaire was used in the Finnish Health 2000 survey (Kestilä & Martelin 2005). Respondents were asked to report how often they engaged in these activities using a 5-point scale with the following categories: "Every or almost every day", "once or twice of week", "once or twice a month", "once or twice a year" and "less often". For the analysis, three categories were formed: at least once or twice a week, once or twice a month and once or twice a year or less often. For the daily activities, such as "reading books, listening to music", "watching TV", "reading newspapers", and "playing computer games" the categories "almost every day", "once or twice a week" and "once or twice a month or less often" were used.

Lack of social support was assessed with four questions about the support received from other people. The scale was developed by Sarason et al. (1983) and

was used in the Finnish Health 2000 Survey (Nieminen et al. 2008). Social support was conceptualised as emotional and practical help from others. Availability of help from others was elicited using the following questions: “Who do you think really cares about you no matter what happens to you?” and “From whom do you get practical help when needed?”. Several alternatives could be chosen: spouse/partner; other relative; friend; fellow worker; neighbour; no-one. Answering one or more questions with “I receive support from no-one” categorised the respondent as one lacking social support. The sum score ranged from 0 to 6.

Stressful life events were measured using parts of the Life Change Inventory (Holmes & Rahe 1967) to determinate potential stress factors in the last 12 months (table 5). The scale has been used extensively in studies on psychosocial stress (Baca-Garcia et al. 2007). The subjects were asked which of the life events on a 12-item list had occurred over the previous 12 months. In Finland a modified version of this scale was used to investigate predictors for failure to complete compulsory military service (Parkkola 1999).

Childhood adversities were measured with a series of questions (Table 4) used earlier in the Finnish Health 2000 survey (Pirkola et al. 2005b, Kestilä et al. 2006). Respondents were instructed to choose “No”, “Yes”, or “Cannot say” in response to questions on various childhood adversities. “Yes” answers were coded positive for these questions and gave the total number of childhood adversities. The sum score of accumulated childhood adversities ranged from 0 to 11.

Psychosocial well-being

Quality of life was measured with a Finnish scale, used in the nationwide Health 2000 survey (Koskinen et al. 2005). It includes questions about satisfaction with human relations, financial situation, living conditions, future prospects and quality of life as well as with oneself. Each item was measured on a five-point Likert scale (from 1=very satisfied to 5 = very dissatisfied). The summation of answers yielded an individual sum score ranging from 6 to 30. The Cronbach’s alpha coefficient of this scale was 0.753.

Accumulation of problems was measured in terms of a sum score including the following variables: psychological distress (GHQ-12>3), alcohol-related problems (CAGE>1), unemployment, receiving supplementary benefits, homelessness and lack of social support.

Register data were collected from several official registers. The Hospital Discharge Register collects information on all inpatient episodes in health care facilities. In this study, information on hospital treatment due to psychiatric disorder was collected (ICD-10 codes: F00-F99). The Care Register for Social Welfare produces data on care and services in social care (institutional care, housing services and home care). The Child Welfare Register contains information of children being taken into care. These registers were used for data collection in Study III. The diagnosis-based military fitness classification was gathered using registers maintained by the Finnish Defence Forces.

Self-assessed effect of the intervention was measured with a telephone interview carried out within one month after the completion of the support programme. The participants were asked whether their life situation was better, worse or the same compared with the situation before participating in the support programme. They were then asked whether or not this was because of the programme (Figure 7).

4.5 Sample

Study I

The study sample consisted of 796 men: 440 men were conscripted into military or civil service and 356 were exempted from service (185 were exempted at call-up and 171 discontinued their service).

Study II

The sample consisted of 356 young men exempted from service. Of these, 351 answered the question about suicidal ideation.

Studies III and IV

The sample consisted of 356 young men exempted from service, 182 were randomly assigned to an intervention and 174 to a control group. The control and intervention groups did not differ significantly in terms of age, marital status, education, employment, living conditions, education or diagnosis for exemption from service (Table 2). Similarly, there were no statistically significant differences at baseline in terms of psychological distress, alcohol consumption, quality of life, accumulation

of problems, self-confidence or contentment (Table 3). Consequently, the integrity of randomisation to the experimental and the control condition was fully preserved.

The follow-up questionnaire was returned by 99 men (response rate 54 %) in the intervention and by 80 men (response rate 46 %) in the control group. Non-responders were less satisfied with their current financial ($p<.05$) and life situation ($p<.05$) at baseline. They were also more commonly employed (43% vs. 31%, $p<.05$) or not in employment or education (23% vs. 20%) than the participants, who were mostly students (34% vs. 49%).

Table 2. Sample description at baseline: socio-demographic variables of men exempted from compulsory military or civil service in the intervention and control groups

Variables	Intervention group		Control group		P
	n	%	n	%	
Marital status					Ns
Marriage or partnership	31	17	27	16	
Single	151	83	147	84	
Education					Ns
Comprehensive school	103	57	96	56	
Upper secondary school	78	43	77	44	
Employment					Ns
Employed	61	34	69	37	
Student	77	43	71	42	
Not in employment/education	42	23	34	22	
Living					Ns
Alone	36	20	26	15	
With family/parents	119	67	128	75	
Other	24	13	16	9	
Diagnosis for exemption from service					Ns
Mental health	69	42	80	51	
Alcohol/drugs	17	10	17	11	
Somatic diagnosis	79	48	59	38	

Note: Missing values are excluded.

4.6 Statistical analyses

Study I

To examine the characteristics of men exempted from service (fitness classes C, D and E) comparisons with the group of men conscripted into service (fitness classes A and B) were carried out using t-test, Mann-Whitney test or Chi-square test when appropriate. Further, groups of men exempted from service at call-up and men who had failed to complete their service were compared with each other.

Study II

To examine the characteristics of men with suicidal ideation among men exempted from compulsory military or civil service, two study groups were formed: those who had reported suicidal thoughts during the last 12 months and men reporting no suicidal ideation. Men reporting suicidal ideation more than 12 months ago were excluded from the regression analysis. The associations between suicidal ideation and independent variables were quantified by calculating odds ratios (OR) and 95 per cent confidence intervals (95 CI). Variables identified as significant predictors for suicidal ideation were used for multinomial logistic regression analysis (method: forward, Wald) to assess the independence of factors associated with risk of suicidal ideation, and to control for confounding factors.

Study III

Five subgroups were established based on the rate of adherence among men in the intervention group. Subgroups were compared with each other based on the accumulation of current psychosocial problems. Comparisons between these groups were made using the Kruskal-Wallis test.

To examine the characteristics of men participating in the programme, two groups were formed: those who had more than one contact with a counsellor (=fully participating in the programme), and all other men in the intervention group. Comparisons between the study groups were carried out using t-test, Mann-Whitney test or Chi-square test where appropriate.

Study IV

In the efficacy study, differences in outcome variable means (GHQ-12, CAGE, quality of life, self-confidence and contentment as well as accumulation of problems) were tested using the analysis of repeated measures with one grouping variable (PROC MIXED) (Crowder & Hand 1990). The comparisons were made using the

intention-to-treat method. To prevent selection bias, the analyses were also based on the complete randomised intervention group, which included both participants and non-participants. Duration of the programme and number of sessions and contacts were used as potential factors explaining the efficacy.

To assess a “dose-response” relation, three categories were formed: 1) drop-outs in the intervention group; 2) men in the intervention group who had contact with the counsellor only once; and 3) men participating fully in the programme (i.e. who were in contact with the counsellor after the first meeting). The effectiveness of the programme was dichotomised for logistic regression analyses (1=positive change during the follow-up, 0=no change or negative change during the follow-up). The associations were quantified by calculating odds ratios (OR) and 95 per cent confidence intervals (95 CI).

Most statistical analyses were performed using the SPSS 16.0 or PASW 18.0 statistical software programme. However, the effects of the intervention were analysed with SAS (Release 9 Jan 2003) as in this programme the test with repeated measures also takes account of cases with missing values. The level of significance was set at 0.05. In the text, exact p-values are reported. However, p-value less than .001 is reported as $p < .001$. In the tables, the letters “Ns” are substituted if a p-value is not significant.

4.7 Ethical issues and approval

The respondents returned the baseline questionnaires in sealed envelopes, which ensured that the answers did not affect the decisions made by the military officials. Furthermore, the questionnaire responses did not affect the usual medical examinations at military call-up or when discontinuing service. It was also made explicit that no counsellor within the support programme would have access to the research questionnaires. Written informed consent was obtained from all participants.

Separate permission to collect register data was sought from study participants. Altogether 144 men (85%) in the intervention group gave their permission for data collection from registers. Different registers were combined by using respondent’s unique personal identification numbers as the linkage key.

Men in the control group were recommended to contact the health and social services in case they seemed to need professional help.

The study protocol was approved by the ethics committee of STAKES. Permits to use administrative register data were also obtained from STAKES.

5. Results

5.1 Description of the participants

The study sample consisted of 796 men: 440 men were conscripted into military or civil service and 356 were exempted from service (185 were exempted at call-up and 171 discontinued their service). The grounds for exemption from service were mostly (55% of the cases) based on mental health. Exemption on mental health grounds was more common among men who failed to complete their service than among those exempted from service at call-up (71% vs. 43%, $p<.001$).

Men exempted from service were on average 20 years old (17–29, mean 12.12, SD 2.56; $p<.001$) and men conscripted into service on average 18 years old (17–27, mean 18.00, SD 1.20). Men exempted from service at call-up were on average 19 years old (17–28, mean 19.24, SD 2.23), whereas men who failed to complete their service were on average 21 years old (18–29, mean 21.09, SD 2.55; $p<.001$).

Men exempted from service differed from men conscripted into service in several background variables (Table 3). Conscripted men were more highly educated, were studying and living with parents at the time of the study, whereas many of the men exempted from service had already entered the workforce and left the parental home. Unemployment was more common among men exempted from service.

Men who failed to complete their service differed from the men who were exempted from the service at call-up in some background variables. Men who failed to complete their service were more likely to be unemployed (24% vs. 11%; $p=.002$) and live alone (43% vs. 29%; $p=.001$) than those exempted from service at call-up. There were no differences in terms of marital status or education between men who failed to complete the service and those exempted from service at call-up.

5.2 Psychosocial well-being of men exempted from compulsory military or civil service (Study I)

Men exempted from service differed from men conscripted into service in terms of psychosocial well-being. From a young age, men exempted from service had been in a more disadvantaged position with regard to childhood living conditions (Table 3). Differences between the study groups were found in all variables of childhood adversities with the exception of parental divorce. As children, about one in four had experienced family discord, financial difficulties and paternal alcohol-related problems. One in three had also been bullied at school. Furthermore, the accumulation of childhood adversities was higher among men exempted from service than among those conscripted into service (mean 2.01 vs. 0.81; $p < .001$).

No difference was found between men exempted from service at call-up and those discontinuing their service in relation to the accumulation of childhood adversities. Men exempted from service at call-up differed from those discontinuing their service only in terms of the variable of serious illness (28% vs. 7%, $p < .001$).

In young adulthood, men exempted from service had more commonly psychosocial problems than men conscripted into service. Differences between the study groups were found in all variables indicating current psychosocial problems: psychological distress, alcohol-related and financial problems, unemployment, homelessness and lack of social support (Table 3). Furthermore, the accumulation of problems was greater among men exempted from service (mean 1.32 vs. 0.41; $p < .001$). Two thirds of exempted men had more than one problem, compared with only one third of men conscripted into service (Figure 4).

Unemployment (24% vs. 11%, $p = .002$), psychological distress (55% vs. 34%; $p < .001$) and alcohol-related problems (44% vs. 29%; $p = .005$) were more common among men who had failed to complete their service than among those exempted from service at call-up. The accumulation of problems was also greater (mean 1.61 vs. 1.04; $p < .001$).

Table 3. Background and outcome variables of men conscripted into service (fitness class A, B) and men exempted from compulsory military or civil service (fitness class C, D,E)

Variables	Men conscripted into service		Men exempted from service		P
	n	%	n	%	
Marital status					<.001
Marriage or partnership	409	96	298	84	
Single	17	4	58	16	
Education					<.001
Comprehensive school	162	39	199	56	
Upper secondary school	258	61	155	44	
Employment					<.001
Employed	49	12	130	37	
Student	349	83	148	42	
Not in employment/education	20	5	76	21	
Living					<.001
Alone	19	4	62	18	
With family / parents	379	91	247	71	
Other	20	5	40	11	
Diagnosis for exemption from service					
Mental and behavioural disorders			183	57	
Somatic disorders			138	43	
Childhood adversities ¹					
Financial difficulties of family	28	8	85	28	<.001
Parental unemployment	37	9	62	19	<.001
Parental medical illness	36	9	63	19	<.001
Paternal alcohol-related problems	44	11	78	24	<.001
Maternal alcohol-related problems	12	3	36	11	<.001
Paternal mental health problems	7	2	25	8	<.001
Maternal mental health problems	10	2	36	11	<.001
Family discord	38	10	83	27	<.001
Parental divorce	147	35	153	44	Ns
Serious or chronic long-term illness	11	3	60	18	<.001
Being bullied at school	45	11	115	34	<.001
Current psychosocial problems					
Not in employment/education	18	4	62	18	<.001
Homelessness	1	0.2	14	4	<.001
Receiving supplementary benefits	22	5	63	18	<.001
Alcohol-related problems (CAGE>1)	87	21	126	36	<.001
Psychological distress (GHQ-12>3)	30	8	147	44	<.001
Lack of social support	20	5	55	16	<.001

Note: Missing values are excluded in the percentage distributions

¹ With Bonferroni correction

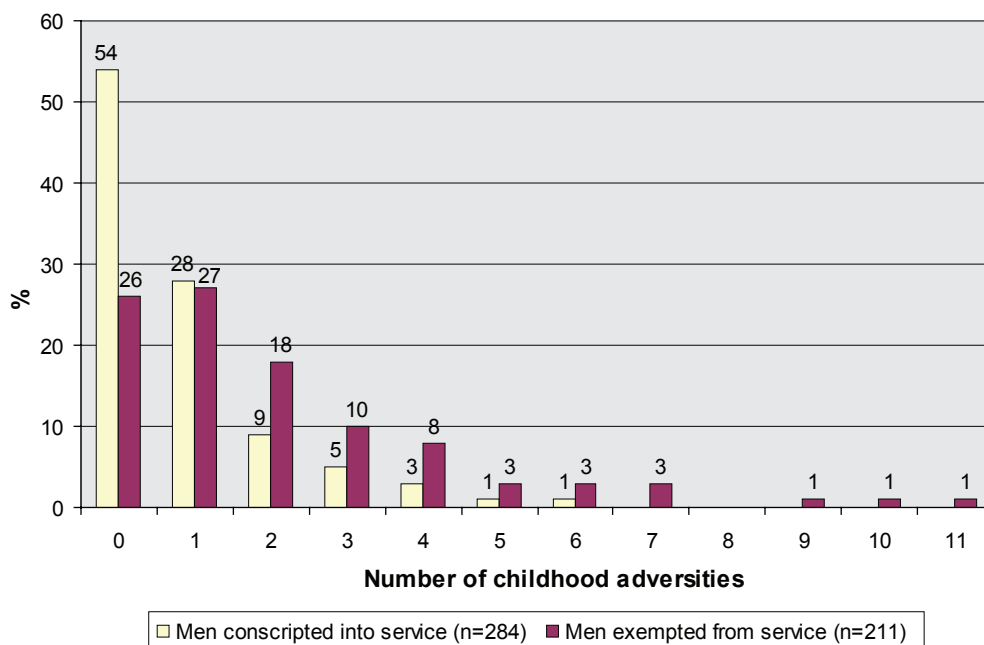


Figure 3. Accumulation of childhood adversities among men conscripted into service and men exempted from service

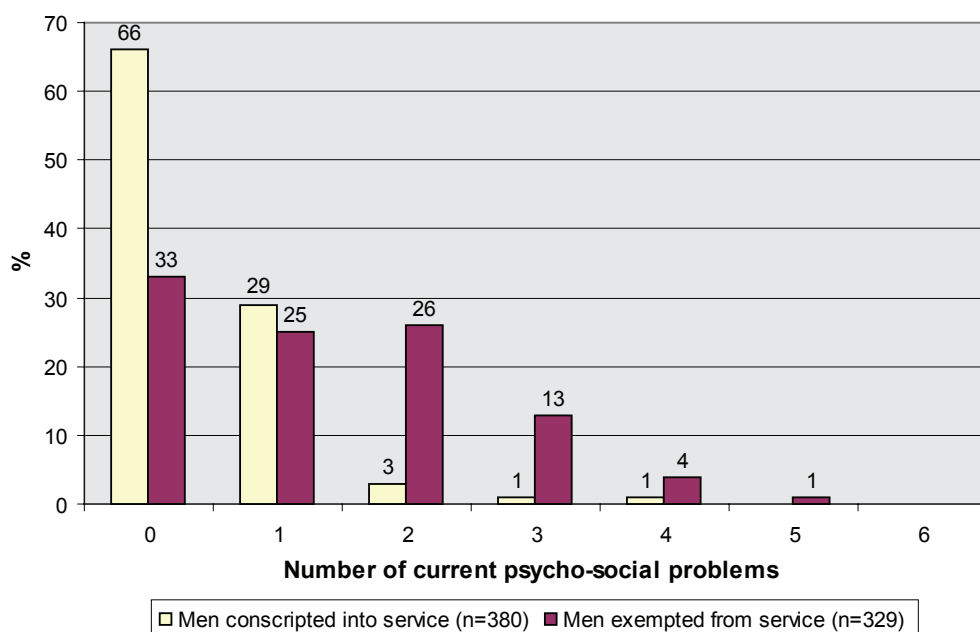
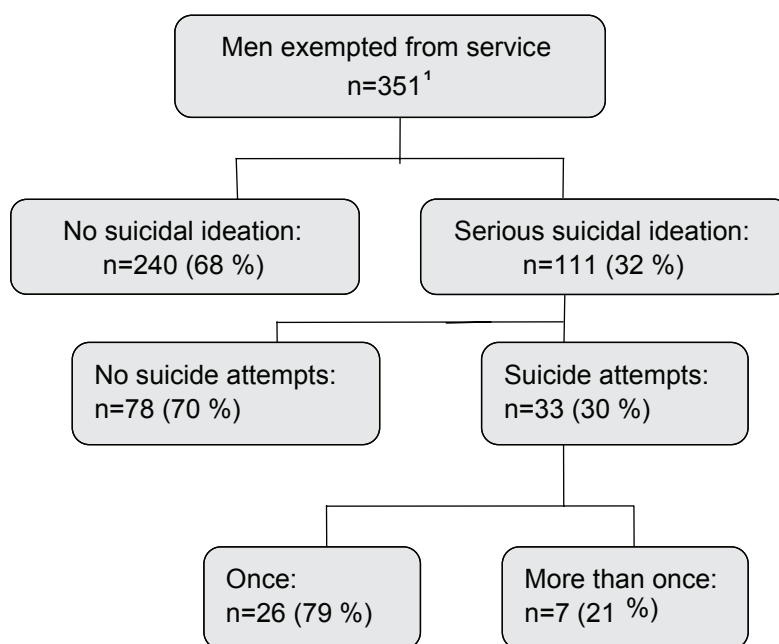


Figure 4. Accumulation of current psychosocial problems among men conscripted into and exempted from service

5.3 Factors associated with suicidal ideation (Study II)

One third (32 %) of the men exempted from service reported seriously considering suicide. Of these, 33 men had had thoughts of suicide in the previous 6 months, 27 men in the previous 6–12 months and 51 over 12 months ago. There were no differences in the prevalence of suicidal ideation between the men who had failed to complete service and those who had been exempted from service at call-up. Moreover, no association was found between suicidal ideation and participant's education, marital status or living conditions.

Of the men reporting serious suicidal ideation, one third (30 %) reported that they had attempted suicide (Figure 5).



¹ Of the whole sample of 356 men, 351 answered the question about suicidal ideation

Figure 5. Frequency of serious suicidal ideation and suicide attempts among men exempted from compulsory military or civil service

Various childhood adversities predicted suicidal ideation among the men in the sample. A significant association was found with financial difficulties in the family, parental medical illness, paternal/maternal alcohol-related problems, paternal mental health problems, family discord and being bullied at school. Suicidal ideation was not associated with parents' unemployment, maternal mental health problems, parental divorce or own serious long-term illness (Table 4).

Of current stressful life events and psychosocial problems, major changes related to family, family discord, discord with superior at work, financial difficulties, sleeping difficulties, discord with the girlfriend/wife, alcohol abuse, homelessness, and lack of social support were significantly associated with serious suicidal ideation. Psychiatric diagnosis at call-up or when failing to complete service markedly increased the risk for suicidal ideation. No association was found between being dismissed from work, major burden of debt, own illness, abandoning hobby, girlfriend being pregnant, in-law problems or unemployment (Table 5).

Maternal alcohol-related problems ($p=.027$), changes in the family during the past 12 months ($p=.004$), lack of social support ($p<.001$) and discord with the superior at work during the past 12 months ($p=.030$) were independently associated with serious suicidal ideation in the past 12 months (Nagelkerke $R^2=.32$, model fitting $p=.032$).

Accumulation of problems predicted suicidal ideation. With 4 or more childhood adversities or 8 or more current stressful life events/problems the risk of suicidal ideation increased markedly (Table 6).

Inviting friends/relatives home or visiting them as well as watching TV, listening to radio and reading newspapers seemed to serve as protective factors against suicidal ideation in young adulthood. There was no statistically significant association between sport and decreased risk of suicidal ideation. Engagement in handicrafts, art, music etc. was associated with increased risk of suicidal ideation (Table 7).

Table 4. Univariate associations between serious suicidal ideation and childhood adversities among men exempted from compulsory military or civil service

Childhood adversities	n	OR	95 % CI	P
Financial difficulties in the family				.015
No	189	1		
Yes	65	2.28	1.17–4.43	
Parental unemployment				Ns
No	227	1		
Yes	50	1.75	.85–3.60	
Parents' serious illness				.022
No	234	1		
Yes	51	2.22	1.12–4.39	
Paternal alcohol-related problems				.028
No	217	1		
Yes	64	2.05	1.08–3.91	
Maternal alcohol-related problems				.003
No	257	1		
Yes	30	3.32	1.49–7.39	
Paternal mental health problems				.015
No	254	1		
Yes	18	3.51	1.28–9.61	
Maternal mental health problems				Ns
No	260	1		
Yes	27	2.01	.83–4.88	
Serious conflicts within the family				.001
No	195	1		
Yes	61	3.17	1.61–6.23	
Parents' divorce				Ns
No	169	1		
Yes	126	1.71	.97–3.03	
Serious or chronic long-term illness				Ns
No	236	1		
Yes	48	1.30	.61–2.74	
Being bullied at school				<.001
No	196	1		
Yes	91	2.95	1.63–5.34	

CI confidence interval

Table 5. Univariate associations between serious suicidal ideation, stressful life events and current psychosocial problems during past year among men exempted from compulsory military or civil service

Stressful life events during past one year and current psychosocial problems	n	OR	95 % CI	P
<i>Stressful life events</i>				
Major changes related to family				.005
No	207	1		
Yes	91	2.31	1.28–4.15	
Family discord				<.001
No	190	1		
Yes	110	3.08	1.72–5.51	
Discord with the superior in the workplace				<.001
No	275	1		
Yes	24	4.85	2.05–11.46	
Being dismissed from work				Ns
No	277	1		
Yes	22	2.02	.78–5.20	
Debts of more than 10 000 Euros				Ns
No	278	1		
Yes	22	1.19	.42–3.37	
Financial difficulties				.006
No	128	1		
Yes	172	2.41	1.29–4.50	
Personal illness or injury				Ns
No	149	1		
Yes	149	1.00	.57–1.76	
Abandoning hobby				Ns
No	233	1		
Yes	66	.88	.44–1.78	
Sleeping difficulties				<.001
No	159	1		
Yes	139	4.60	2.42–8.71	
Girlfriend or wife being pregnant				Ns
No	280	1		
Yes	20	2.31	.88–6.06	
Discord with the girlfriend or wife				.004
No	231	1		
Yes	67	2.49	1.34–4.60	
In-law problems				Ns
No	229	1		
Yes	67	.76	.37–1.57	

<i>Current psychosocial problems</i>				
Alcohol abuse (CAGE>1)				<.001
No	201	1.0		
Yes	96	2.95	1.64–5.29	
Unemployment				Ns
No	250	1.0		
Yes	48	.90	.41–1.98	
Homelessness				.014
No	288	1.0		
Yes	12	4.33	1.35–13.96	
Lack of social support				.014
No	251	1.0		
Yes	48	2.35	1.19–4.66	
F-diagnosis (ICD-10) at call-up or at failure to complete service				<.001
No	128	1.0		
Yes	136	5.81	2.68–12.59	
CI confidence interval				

Table 6. Associations between suicidal ideation and accumulation of problems (stressful life events and current psychosocial problems during past year) among men exempted from compulsory military or civil service

Accumulation of adversities	n	OR	95 % CI	P
Childhood adversities				
No adversities	48	1 (reference)		
1 adversity	51	2.00	.47–8.49	Ns
2 adversities	28	2.50	.52–12.10	Ns
3 adversities	19	2.81	.51–15.38	Ns
4 adversities	14	6.00	1.16–31.13	.033
5 or more adversities	20	6.43	1.42–29.10	.016
Stressful life events and current psychosocial problems				
No problems	17	1 (reference)		
1 problem	35	2.07	.21–20.04	Ns
2 problems	51	2.98	.34–25.73	Ns
3 problems	40	2.29	.25–21.19	Ns
4 problems	36	2.58	.28–24.00	Ns
5 problems	30	5.82	.66–51.28	Ns
6 problems	29	5.09	.57–45.58	Ns
7 problems	16	7.27	.74–71.11	Ns
8 or more adversities	27	12.80	1.48–110.79	.021

Table 7. Univariate associations between suicidal ideation and leisure activities among men exempted from compulsory military or civil service

Leisure activities	n	OR	95 % CI	P
Clubs and societies				
At least once or twice a week	24	1		
Once or twice a month	23	4.81	.88–26.30	Ns
Once or twice a year or less often	252	2.79	.64–12.26	Ns
Indoor sport				
At least once or twice a week	93	1		
Once or twice a month	72	1.15	.51–2.59	Ns
Once or twice a year or less often	135	1.62	.82–3.19	Ns
Outdoor sport				
At least once or twice a week	108	1		
Once or twice a month	94	.88	.44–1.75	Ns
Once or twice a year or less often	93	.89	.45–1.77	Ns
Bars, pubs, restaurants, dancing				
At least once or twice a week	94	1		
Once or twice a month	120	.69	.36–1.36	Ns
Once or twice a year or less often	83	.84	.41–1.72	Ns
Reading books, listening to music				
Almost every day	199	1		
Once or twice a week	50	.56	.24–1.32	Ns
Once or twice a month or less often	48	.58	.25–1.39	Ns
Handicrafts, art, playing music, singing, photography, painting				
At least once or twice a week	106	1		
Once or twice a month	54	.71	.32–1.57	Ns
Once or twice a year or less often	137	.50	.27–.95	.034
Visiting relatives or friends				
At least once or twice a week	171	1		
Once or twice a month	95	1.15	.60–2.19	Ns
Once or twice a year or less often	33	3.18	1.42–7.12	.005
Inviting friends or relatives home				
At least once or twice a week	143	1		
Once or twice a month	86	3.25	1.62–6.54	.001
Once or twice a year or less often	69	3.02	1.44–6.33	.004
Watching TV, listening to radio				
Almost every day	215	1		
Once or twice a week	61	1.62	.81–3.21	Ns
Once or twice a month or less often	20	4.07	1.57–10.53	.004

Reading newspapers or magazines				
Almost every day	138	1		
Once or twice a week	102	.93	.46–1.87	Ns
Once or twice a month or less often	59	2.76	1.38–5.54	.004
Playing computer games, video games etc.				
Almost every day	125	1		
Once or twice a week	101	.96	.49–1.90	Ns
Once or twice a month or less often	72	1.59	.80–3.18	Ns
CI confidence interval				

5.4 Factors associated with adherence to the support programme (Study III)

Of the 182 participants in the intervention group, 12 could not be contacted by the counsellors for various reasons and they were excluded. The counsellors were able to reach 121 participants (71%). The counsellors met 85 participants (50%) and altogether 52 men (31%) were in contact with the counsellor after the first meeting. The intervention group was divided into five subgroups according to the adherence as follows:

Refused to participate in the programme: Altogether 28 men refused to participate in the programme after randomisation. Most of these men wanted to participate in the study, but not the support programme.

Could not be reached: The counsellors could not reach 21 men in spite of extensive efforts. The counsellors made on average 5 fruitless attempts to contact the man (range 2–18 attempts).

Contacted but not met: Altogether 36 men were reached by phone but they felt no need to meet the counsellor. In counsellors' opinions, many of these men were not in need of support. There were also men in this group who did not appear at the first meeting even if an appointment was made. Nor were the counsellors able to reach these men afterwards.

Met once: The counsellors met 33 men only once, mostly because the men seemed to have no need for support.

Men participating fully in the programme: Altogether 52 men participated fully in the programme. The counsellors met the participants 1–15 times, at most 2 times (mean 3.58, SD 2.51). In addition to the meetings, the counsellors

communicated with the men by phone. The support programme ran for an average of seven months (7–437 days, mean 208.04 days, SD 126.10). The most common topics during the counselling sessions were access to work and education, financial resources, housing and mental health.

Two out of three men participating fully in the programme were exempted from service due to a mental or behavioural disorder ($p=.005$, Table 8). The most common grounds for exemption were neurotic, stress-related disorders ($n=14$). Psychological distress ($p=.016$) and unemployment ($p=.035$) were common problems for the men participating fully in the programme. More than half of them had been bullied at school ($p=.036$) and 38 per cent had suffered from family discord in the childhood ($p=.045$). Almost half (42 %) of the men participating fully in the programme had had serious suicidal ideation in the past.

There were no differences in age between men participating fully in the programme and other men in the intervention group. Moreover, no differences were found in marital status, education, living arrangements or other specific social problems between the men participating fully in the programme and other men in the intervention group. Likewise, men participating fully in the programme did not differ from the others in the intervention group in regard to hospital treatment due to psychiatric disorder, treatment due to substance abuse, or child maintenance and custody (Table 8).

The subgroups differed from each other with regard to the accumulation of problems ($p=.014$). Men participating fully in the programme and men who could not be reached at all had the greatest accumulations of problems (Figure 6). Men in the latter group had more commonly failed to complete military or civil service (86 % vs. 45 %, $p=.001$) and were more commonly less educated (81 % vs. 53 %, $p=.019$) than the other men in the intervention group.

Table 8. Distribution of background and outcome variables of men participating fully in the Time Out! Getting Life Back on Track support programme and other men in the intervention group

Variables	Men participating fully in the programme (n=52)		Other men in the intervention group (n=118)		P
	n	%	n	%	
Exemption from service					Ns
At call-up	25	48	60	51	
At failure to complete service	27	52	58	49	
Diagnosis for exemption from service					.005
Mental and behavioural disorders	33	67	40	42	
Somatic disorders	16	33	55	58	
Marital status					Ns
Marriage or partnership	8	15	22	19	
Single	44	85	96	81	
Education					Ns
Comprehensive school	27	53	69	59	
Upper secondary school	24	47	49	42	
Living					Ns
Alone	11	22	24	21	
With family / parents	30	59	82	70	
Other	10	20	11	9	
Childhood adversities					
Financial difficulties of family	17	39	24	24	Ns
Parental unemployment	11	22	24	22	Ns
Parents' serious illness	7	14	18	17	Ns
Paternal alcohol-related problems	10	20	25	23	Ns
Maternal alcohol-related problems	3	6	14	12	Ns
Paternal mental health problems	6	13	5	5	Ns
Maternal mental health problems	6	13	6	5	Ns
Family discord	17	38	22	22	.045
Parental divorce	25	49	46	40	Ns
Own serious or chronic illness	10	20	20	18	Ns
Being bullied at school	26	53	39	35	.036
Current psychosocial problems					
Unemployed	15	29	17	15	.035
Homelessness	3	6	5	4	Ns
Receiving supplementary benefits	13	26	19	16	Ns
Alcohol-related problems (CAGE>1)	20	39	35	30	Ns
Psychological distress (GHQ-12>3)	30	63	45	41	.016
Lack of social support	7	14	17	14	1.000

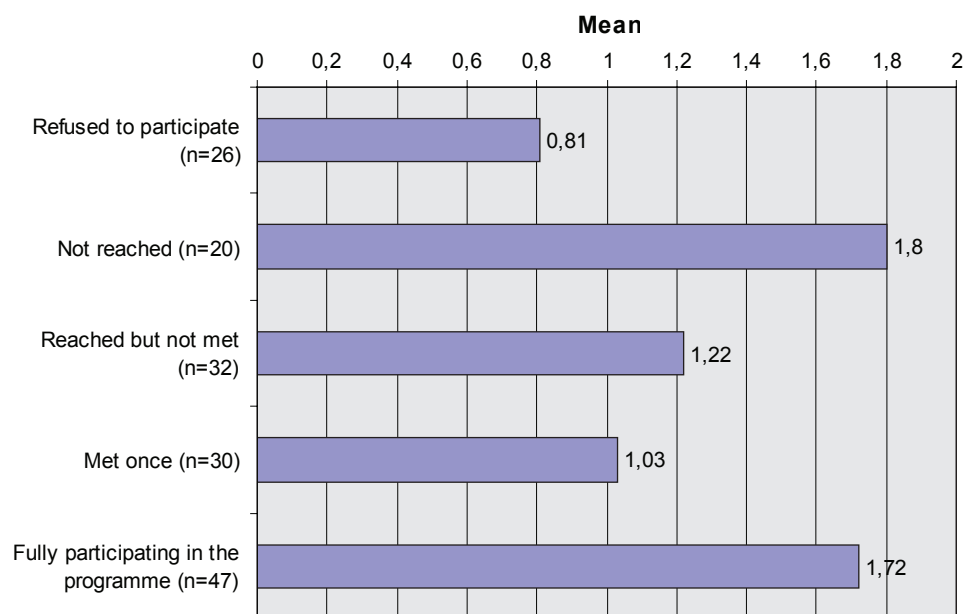
Serious suicidal ideation					.032 ¹
No, never	30	58	87	76	
Yes, during the last 6 months	8	15	8	7	
Yes, during the last 6–12 months	4	8	5	4	
Yes, last time more than 1 year ago	10	19	15	13	

Register data

Child maintenance and custody (taken into care as child)	4	8	10	11	Ns
Hospital treatment due to psychiatric disorder	8	16	10	11	Ns
Treatment due to substance abuse	1	2	6	6	Ns

Note: Missing values are excluded in the percentage distributions

¹ Variable was dichotomised (suicidal ideation in the past/no suicidal ideation) for the Chi-square test



The higher the score the more accumulated problems

Differences between the groups statistically significant ($p=.014$, Kruskal-Wallis test)

Difference between men participating fully in the intervention group and other men in the intervention group statistically significant ($p=.019$, Mann-Whitney test)

$n=155$ (data available for the sum score from 155 study participants)

Figure 6. Mean sum scores of accumulated psychosocial problems among men in the intervention group categorised into subgroups

5.5 Efficacy of the Time Out! Getting Life Back on Track support programme (Study IV)

After one-year follow-up, psychological distress (GHQ-12) decreased more among men in the intervention group than among men in the control group (Table 9). The intervention had no impact on young men's alcohol consumption, self-assessed quality of life, problem accumulation, self-confidence or contentment. The duration of the programme or the number of sessions had no impact on the efficacy of the programme.

During follow-up, psychological distress decreased among 55 per cent of the men in the intervention group and among 40 per cent of the men in the control group. Of those participating fully in the programme, psychological distress fell by 62 per cent. According to the odds ratios, men participating fully in the programme were more likely to get better than those in the intervention group who did not participate in the programme at all (Table 10), but the difference was not statistically significant.

Carrying out military or civil service at the time of responding had an impact on the results. At baseline, men who had failed to complete their service were more commonly psychologically distressed than those responding at the call-up. At follow-up, their psychological distress decreased clearly both in the intervention as well as in the control group (Table 11). However, the impact of the intervention was very clear among men participating in the study at call-up.

In the telephone interviews, 58 per cent (n=40) of the men participating fully in the programme reported that their life situation had improved due to the programme (Figure 7).

Table 9. Means and standard deviation (SD) of outcome variables at baseline and follow-up in the intervention and control groups

Variable	Baseline			Follow-up			P
	n	mean	SD	n	mean	SD	
Psychological distress (GHQ-12)							.0479 ¹
Intervention group	168	4.13	3.92	95	2.45	2.63	
Control group	167	3.72	3.74	75	3.17	3.47	
Alcohol abuse (CAGE)							Ns
Intervention group	179	1.28	1.45	99	1.15	1.38	
Control group	169	1.45	1.42	78	1.24	1.48	
Quality of life							Ns
Intervention group	178	16.05	4.05	99	15.71	3.68	
Control group	172	15.65	3.90	80	15.29	4.50	
Self-confidence							Ns
Intervention group	174	15.41	2.39	96	14.96	2.02	
Control group	166	15.05	2.30	77	15.06	2.58	
Contentment							Ns
Intervention group	179	4.62	1.46	99	4.45	1.29	
Control group	168	4.45	1.25	77	4.56	1.41	
Accumulation of problems							Ns
Intervention group	166	1.35	1.21	93	1.16	1.01	
Control group	163	1.28	1.18	72	1.03	1.07	

¹Analysis of repeated measures (PROC MIXED), $F(215)=3.96$

Table 10. Odds ratios for reduced psychological distress by different dose-response of intervention

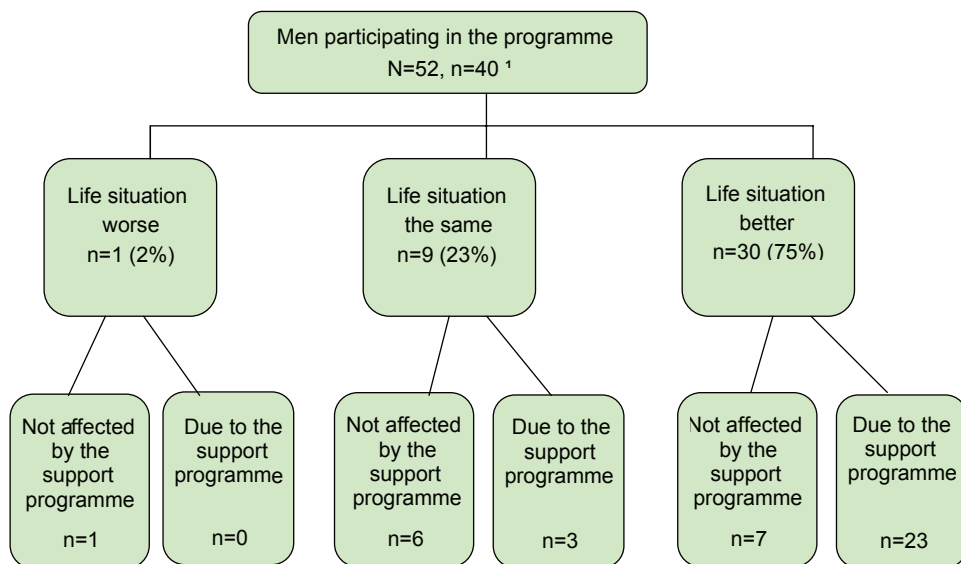
Variable	n	Odds ratio (95% CI)
Drop-outs	30	1.0 (reference)
Counsellors in contact	29	1.40 (0.51–3.92)
Men fully participating	29	1.87 (0.66–5.28)

Table 11. Means and standard deviation (SD) of psychological distress (GHQ-12) at baseline and follow-up among men participating in the study due to failure to complete service and through call-up.

	Baseline			Follow-up			P
	n	mean	SD	n	mean	SD	
Intervention group							
Men failing to complete service	84	4.88	3.97	40	2.68	3.14	
Men at call-up	84	3.38	3.75	55	2.29	2.21	
Control group							
Men failing to complete service	81	4.94	3.84	33	2.67	3.29	Ns ¹
Men at call-up	86	2.58	3.27	42	3.57	3.59	.004 ²

¹analysis of repeated measures (PROC MIXED)

²analysis of repeated measures (PROC MIXED) F(124)=8.50



¹ From the whole sample of 356 men, 351 answered the question about suicidal ideation

Figure 7. Self-assessed life situation of men at the end of the support programme compared with the situation before participating in the programme

6. Discussion

6.1 Overview of the findings

6.1.1 Young men exempted from compulsory military or civil service have various psychosocial problems

This study indicates that there is a group of young men that can be identified as a group potentially in need of support from the social and health services. The study showed that exemption from military or civil service is strongly associated with a wide range of psychosocial problems. The findings corroborate earlier studies (Otto 1981, Parkkola 1999, Multimäki et al. 2005, 2008). The fitness class can also be used as a general indicator of well-being although the purpose of assessing the military fitness class is primarily to help place conscript in suitable tasks (Multimäki et al. 2005).

The prevalence of various problems among men exempted from service was relatively high when compared with men of the same age in general population in Finland. While the prevalence of psychological distress (as measured with GHQ-12) in general population among men aged 18–24 years has been found to be 9 per cent (Pirkola et al. 2005a), in this study almost half of the men exempted from service were psychologically distressed. Exemption from military or civil service is always based on health grounds and about 40 per cent of the reasons for exemptions are mental disorders. This can be seen in the high score of psychological distress. Further, being in military service or being afraid of it can also cause psychological distress.

The respondents completed the questionnaire on the same day as they were informed of the decision on conscription or exemption from service. For some, exemption from military or civil service can be a big disappointment and in this way cause temporary psychological distress. In Finland, most young men complete their service and it is still seen as kind of a “driving license” for the future (Upanne & Rautava 1996, 17). Nevertheless, for some men exemption from service can be a big

relief. This may be the case, for instance, for somebody suffering from sleep disorder or having problems in adapting to army life. The items in the GHQ-12 measure whether the respondent has experienced a particular symptom or behaviour recently compared to the situation usually (Goldberg & Williams 1991). Thus psychological distress may be relatively high measured with this scale even if the exemption from service came as a relief. Compared with conscripted men, psychological distress was also relatively high among men exempted from service at call-up. Chronic somatic diseases can also be associated with mental distress (Kiviruusu et al. 2007).

Psychosocial problems were more prevalent among men who failed to complete their service than among those exempted from service at call-up. This can be explained by the fact that, in the sample, men who failed to complete their service commonly had mental health problems, whereas somatic diseases were the most common reasons for exemption among men exempted from service at call-up. Mental disorders are often associated with a wide range of social problems. Moreover, men who failed to complete their service were also slightly older than those exempted at call-up, and were more likely to have moved away from home. Living alone may generate new pressures in life and also negatively affect the quality of life.

The accumulation of problems was greater among men exempted from service than among those conscripted into service. The problems encountered in adolescence are often not determined by one single factor but rather a result of the interaction of several factors. Problems can influence each other complicating the achievement of psychosocial and normative developmental tasks in adolescence (Rönkä 1999, Flay 2002, Shucksmith et al. 2009).

6.1.2 Serious suicidal ideation is common among men exempted from compulsory military or civil service

One third of the men exempted from compulsory military or civil service in Finland reported having seriously contemplated suicide. Suicidal ideation in the sample was much more common than in earlier studies of young males (Haavisto et al. 2005b, Lynch et al. 2006, Brunstein et al. 2007). The 12-month prevalence of suicidal ideation among 18–24 year olds in Finland has been shown to be 1.2 % in males and 2.9 % in females (Hintikka 1998). The difference in the prevalence of suicidal ideation compared with earlier studies can be explained by the fact that the sample

consisted of young men with various psychosocial problems who can therefore be deemed a vulnerable group. Further, a notable and alarming finding was that one third of the men with suicidal ideation had in fact attempted suicide. Men exempted from compulsory military or civil service seem to comprise an important target group in the prevention of suicide.

Suicidal ideation was associated with various adversities in childhood as well as with current stressful life-events or problems. As in existing research, almost all childhood adversities were significantly associated with suicidal ideation. Childhood adversities – such as being bullied or having depressive symptoms – have been found to be common risk factors for psychological distress, depression and suicidal ideation in young adulthood (Kaltiala-Heino et al. 1999, Roland 2002, Haavisto et al. 2005b, Kestilä et al. 2006, Brunstein et al. 2007).

Furthermore, several current stressful life circumstances were associated with suicidal ideation among young men exempted from service. Many of these were related to problems in human relationships. This finding, too, is consistent with earlier research. Hintikka (1998) found that adequate social networks and social support, and also a well-functioning family structure are associated with reduced risk of suicidal behaviours. Adolescents with suicidal ideation commonly have less social support (Hintikka 1998, Babiss & Gangwisch 2009). Family discord is one of the most frequently mentioned causes of mental health problems by young people in a number of studies (Shucksmith et al. 2009). Social support received from the family is important. Young people need to be able to use the family as a form of support and “buffering” against adversity, and be able to use the family to give support in decision-making (Fröjd 2008, Shucksmith et al. 2009).

Multivariate logistic regression analysis showed that maternal alcohol problems in childhood, major changes in the family, discord with the superior at work and lack of social support were independently associated with suicidal ideation in young adulthood. For this analysis, psychiatric diagnosis was controlled for. The explanations for this result may be found in the nature of the life phase in the target group. Young adulthood is a developmentally critical period in the lifespan. Young adults are subjected to many new pressures and challenges in their daily lives. Leaving the parental home for the first time, financial worries, limited employment or educational opportunities, or worries about human relations may trigger mental distress (Olsson et al. 1999, Ge et al. 2001, Baca-Garcia et al. 2007). It was interesting to note that alcohol abuse did not play a significant role in the

multivariate analysis. This result may be explained by the fact that alcohol abuse is commonly associated with many other psychosocial problems and therefore – even as a strong predictor for suicidal ideation in the univariate analysis – was no longer significant when other factors were taken into account.

Accumulation of adversities or problems markedly increased the risk for suicidal ideation in young adulthood. A statistically significant association was found with four or more childhood adversities and eight or more current stressful life-events or problems. Nevertheless, even two or three problems doubled or tripled the risk for suicidal ideation. However, it should be noted that this finding was not statistically significant and therefore needs to be interpreted with caution.

This study found some leisure activities to be associated with suicidal ideation. Social relationships played an important role as a protective factor. Inviting friends/relatives home seemed to serve as a protective factor against suicidal ideation in young adulthood. Social integration and the quality of social relationships are recognised as key factors in physical and mental health. Reduced morbidity and delayed mortality have been found among socially integrated people (WHO 2002b). King and Merchant (2008) suggested that engagement in social activities with normative friends serves a protective function, as it indicates less social isolation, which has been linked more directly to lower suicide risk. Watching TV, listening to the radio and reading newspapers also seemed to protect against suicidal ideation. It is difficult to explain this finding, but it may be related to a general interest in what is going on in the world and to being integrated into society. One other possible explanation is that watching TV and listening to music serve as a way to escape the real world when burdened by personal problems.

Engagement in handicrafts, art, music etc. was associated with increased risk of suicidal ideation. This finding is in line with the findings of Mazza and Eggert (2001). It may be that engaging in this kind of activities attracts specially marginalised or isolated young people who have not found their place in more social or structured activities. Other studies have shown that participation in structured leisure-time activities (with regular participation) can serve as a protective factor in an adolescent's suicidal behaviour (Mazza & Eggert 2001, Brown et al. 2007).

Surprisingly, there was no association between sport and decreased risk of suicidal ideation, even if participation in structured leisure-time activities, such as physical activity, has been suggested in several studies to reduce suicidal ideation and suicide attempts (Mazza & Eggert 2001, Brown et al. 2007, Babiss & Gangwisch

2009). This finding was consistent with those of Choquet & Kovess (1993) who found no relationship between participation in sports and suicidal ideation among French and Canadian adolescents.

6.1.3 The programme reached out to young men in need of psychosocial support

This study showed that most of the young men in the target group could be reached by the counsellors. The call-up for obligatory military service offers an excellent opportunity to reach an entire male age cohort, which would not otherwise be possible once they have left the comprehensive school system. The support programme specifically reached out to young men with psychological distress and an accumulation of problems. A possible explanation for this result might be that the programme was able to reach particularly those who would not necessarily come to the attention of established health or social services. Only a minority of the men participating fully in the programme had been clients of child or social welfare services or had received hospital treatment due to psychiatric disorders. Fully participating men were possibly struggling with the new pressures and challenges of a transition phase into adulthood. Among social problems, unemployment seemed to be a strong predictor for programme adherence.

The rate of full participation was relative low considering that about half of the men were exempted from military or civil service due to mental or behavioural disorders and/or were found to be psychologically distressed. There are several possible explanations for this result. Some of the men may have felt sufficiently supported by meeting the counsellor only once or by having one telephone conversation with the counselor; two out of three men had at least one face-to-face contact or a telephone conversation with the counsellor. Young men in a transitional phase might profit also from prompt counselling, especially in the case of milder problems (Winzer & Bergsten Brucefors 2007). However, it may be that some of these men could have benefited from the programme. Young people often underestimate the need for outside help and attempt to deal with their problems on their own. Similar difficulties with the gap between awareness of problems and help-seeking behaviour have been documented in earlier studies (Ciarrochi & Deane 2001, Ciarrochi et al. 2002, Ciarrochi et al. 2003, Lennings et al. 2006).

The men with the most problems could not be reached at all by the counsellors (12 % in the sample). These men had commonly failed to complete service and were less educated than the other men in the intervention group. Earlier studies confirm that young people with the greatest problems and the least coping skills do not seek help (Carlton & Deane 2000, Deane et al. 2001) and that the higher the risk related to psychosocial problems, the lower the success rate of integration following the intervention among young people (Clarke et al. 1993, Hüsler et al. 2005). According to a meta-analysis by Nosé et al. (2003) patients most associated with non-adherence to psychiatric treatment are young males with a history of substance abuse, poor social functioning, and unemployment. Studies by Ciarrochi and colleagues showed that adolescents who were low in emotional awareness, and who were poor at identifying, describing, and managing their emotions were the least likely to seek help from professional or nonprofessional sources and had the most intention of refusing help from everyone. Moreover, if they sought help, they were the least likely to benefit from it (Ciarrochi & Deane 2001, Ciarrochi et al. 2002, Ciarrochi et al. 2003).

Help-seeking barriers can be found, for instance, in personal beliefs, perceived stigma or restrictive emotional openness and emotional skills (Ciarrochi et al. 2003, Davies et al. 2000, Nyamathi et al. 2007). Further, it is possible that previous unsatisfactory experiences with services deterred them from seeking help from professionals. On the other hand, non-compliance in the programme raises the question of the goodness of fit between client need and intervention provision (Stuart et al. 2008). It may be that these men would have needed support at an earlier stage of their lives or other kinds of support.

The findings indicated that those men who could be reached by the counsellor but who refused to participate in the programme were not necessarily in need of support. Most of them were apparently young men who just did what was expected of them as a result of participation in the study. Besides, they may have had adequate social networks of their own providing support when needed.

Individuals who do not fully participate in an intervention present evaluators with a common methodological challenge. Non-compliance and high drop-out rates are an inherent problem particularly for randomised controlled trials. If the proportion of those fully participating in the programme is relatively low, a large effect for them may be swamped by smaller (or no) effects for those who do not fully participate leading to a small overall effect (Stuart et al. 2008). From the

intervention provider's point of view, non-compliance is challenging, as maximal benefits from interventions cannot generally be achieved if individuals discontinue the intervention before completion. However, this study showed that in psychosocial interventions, the need for support can vary a great deal even in an identified risk group.

6.1.4 The Time Out! Getting Life Back on Track support programme had a positive impact on mental well-being among participating men

The Time Out! Getting Life Back on Track support programme had an impact on young men's psychosocial well-being. During follow-up, psychological distress decreased more in the intervention group than in the control group. Further, the results of the telephone interviews suggested that the intervention had given insights and perspectives regarding current life situation and future plans. The aim of the support programme was to give clients an opportunity to work together with a professional to clarify their current life situation and future plans. Clients were also referred to other social and health services if necessary. A successful intervention is expected to manifest as a change in measures of psychological distress (Goldberg & Williams 1991). As a short-term intervention, counselling has been suggested as an effective method in milder forms of psychological disturbances among young people (Winzer & Bergsten Brucefors 2000).

The effects of current military or civil service were confounding factors in the study. When analysing the effects of current service (baseline at call-up vs. at interruption of service), intervention affected psychological distress only among men who, at baseline, had not yet commenced military or civil service. Failure to complete service apparently causes so much psychological distress that it confounds the results to some extent. Psychological distress measured at the time of discontinuing service is undoubtedly high and the distress can possibly be alleviated simply by leaving the service.

No significant effects were found in terms of other outcome variables, that is, alcohol consumption, problem accumulation, quality of life, self-confidence and contentment. Thus, this study did not reveal any multidimensional effects of the intervention even if similar studies have indicated it to be feasible (Durlak & Wells 1997, Greenberg et al. 2001). It may be that the intervention was not sufficiently

specific to produce a detectable effect in alcohol consumption measured with CAGE, for instance. It may also be that the measures used in this study were not sensitive enough. However, the use of more sensitive scales, for instance AUDIT measuring alcohol related problems, was not feasible as the questionnaire would have been too long.

The duration of the programme or the number of sessions had no impact on the efficacy of the programme. Earlier studies report mixed results preferring either longer programmes (Roth et al. 1998, Derzon et al. 1999, Catalano et al. 2002, Nation et al. 2003, Spence & Shortt 2007, Kavanagh et al. 2009) or programmes of shorter duration (Gottfredson & Wilson 2003, Macgowan 2004).

6.2 Limitations and strengths of the study

Several methodological issues with regard to the study should be considered. First, the response rate was low in spite of one reminder-questionnaire and great effort by the research assistant to contact the non-responders by phone. Accordingly, some selection bias may have occurred. It is a well-known problem of surveys that, in particular, young men with a wide range of psychosocial problems are reluctant to respond (Pietilä et al. 1995, Mattila et al. 2007). The relatively high proportion of non-response data and dropouts creates a degree of bias and makes detecting effectiveness more difficult. Dropouts and non-compliance are a common challenge encountered in preventive programmes (Clarke et al. 1993) and experimental evaluations (Gillham et al. 1995, Stuart et al. 2008, Kerpelman et al. 2009, Ogden et al. 2009, Wenzel et al. 2009). Nevertheless, the analyses were based on the intention-to-treat method. Odds ratios showed a certain trend of the effect for different subgroups of participation. The trend was that the more men participated in the intervention, the greater was the effect in relation to psychological distress. However, this finding did not reach statistical significance. Future studies could make use of more advanced statistical methods, for example, the “complier average causal effects” method, the so called CACE-method (Stuart et al. 2008). The CACE-method estimates the impact of actually participating and doing all of the required activities. This method, however, is commonly applied only in medical and treatment research (Stuart et al. 2008). Further, one limiting factor might be that the controls were also referred to health and social services if necessary. This may have

led to a smaller effect. However, referring controls in need for support to health and social services was necessary for ethical reasons.

Second, most of the measures used in this study have previously been used in screening large samples of adolescents in Finland (Pirkola et al. 2005a, Kestilä et al. 2007). Their sensitivity and suitability for measuring change in follow-up studies is not well known. Further, the accumulation of childhood adversities and current problems was summed up in an index and the problems were treated as equally important, although their contribution to the overall difficulties may not be equal.

Third, most measures were self-reported. The results are subjective and may have been affected by social desirability even if anonymity was ensured. Therefore the respondents may have underestimated their alcohol consumption and diverse problems, for instance. Further, reliability of data related to childhood adversities may be affected by recall bias. Furthermore, disqualification and failing to complete military or civil service may be associated with intense reactions such as distress or relief, which can lead to bias in the reporting of general well-being. However, this hardly influences the differences between the intervention and control groups.

Fourth, the sample was limited to a specific, at-risk group of Finnish young men living in urban areas. Therefore it is difficult to say if the findings on the effectiveness of the programme are transferable to young women, for instance. Further, the findings of this study do not permit assumptions about the psychosocial well-being of young men exempted from military or civil service in rural areas. Other studies have shown differences in the health and well-being of adolescents in urban and rural areas. For example, problems with substance abuse have been found to be more common among adolescents living in metropolitan areas than among those living in rural areas (Luopa et al. 2010). Nevertheless, practical experiences on the programme after implementing it also in rural areas do not support this assumption of geographical differences (Appelqvist-Schmidlechner et al. 2011).

It should also be noted that the study illustrates the situation of young men in the target group at a given moment. As this period of life is one fraught with changes, some of the problems relating to living conditions, financial circumstances and professional career may also be very short-lived and temporary.

The potential limitations notwithstanding, the study also had some notable strengths. Firstly, it was conducted using a randomised study design that is considered to be the most scientifically rigorous one. In this study, the integrity of randomisation to the experimental and the control condition was fully preserved and

the analysis was based on the intention-to-treat approach. Given the possibility that even well-intentioned prevention and promotion programmes may in some cases cause poor outcomes (Shaffer et al. 1990, Harrington & Clark 1998, MacIntyre & Petticrew 2000), there is a responsibility to utilise strategies that have been thoroughly tested and proven to work and not to harm the participants. The findings of this study showed that the programme did not harm anyone.

Another strength of the study was the use of multifaceted indicators of well-being including many aspects in the lives of young adults. According to Perry and Jessor (1985), effective family, school and community-based preventive interventions have a potential to affect four different but interrelated domains of health: psychological health (subjective sense of well-being), social health (role fulfillment and social effectiveness), personal health (realisation of individual potential) and physical health (physical-physiological functioning). It is therefore important to evaluate the effectiveness of early interventions with more than one construct or a single diagnosable mental disorder.

6.3 Implications for practice

The accumulation of problems poses a challenge for the development of interventions targeted at young people. Most of the programmes and interventions for preventing problems and promoting a healthy and successful life are specific to one particular behaviour. It is often the case, however, that the problems encountered in adolescence are the result of an interaction of several factors and cannot be determined by one factor alone. It is important that health care services take the association between common mental disorders and social disadvantage more seriously.

The findings highlight the need for health service providers working with young people to be well aware of social factors that may elevate the risk of mental ill-health or suicidal behaviours. For instance, young men with suicidal ideation may have complex needs. Besides mental distress, they may face sub-standard housing, financial difficulties and a lack of opportunities to develop independence and social engagement. Therefore, they have to be seen from various perspectives, such as psychological and physiological well-being, interpersonal relations, life situation and future plans, economic situation, living conditions and leisure activities.

Multidisciplinary work is needed to prevent the accumulation of psychosocial problems and suicide, which can be seen at worst as an endpoint of accumulated problems among young adults. An intersectoral approach is required because the determinants of suicidal behaviour very often lie in the domains of non-health sectors. Supporting a healthy network of family and peer relationships should be an important issue in suicide prevention activities. Further, early identification of childhood adversities followed by appropriate support and interventions plays an important role in preventing mental health problems in young adulthood.

The study highlighted the importance of improving outreach to young men with several psychosocial problems. Attention should be paid to identifying and reaching out to marginalised young people to integrate them into the education process and to provide them with effective mental health promotion and mental disorder prevention programmes. The study indicated that call-ups for compulsory military or civil service provide unique opportunity to reach out an entire male age cohort so as to provide psychosocial support when needed. This encounter between young people and society should be actively exploited in the prevention of psychosocial problems. Reaching out to young men at risk involves intense activity among service providers. In the Time Out! Getting Life Back on Track support programme, it was the counsellor and not the client who made the first contact, which runs counter to typical real-world situations. Even then, not all young men in need of support could be reached. Outreach youth work (*“etsivä nuorisotyö”* in Finnish) could be the best method to reach out to those men in need for psychosocial support who are the most unlikely to seek help on their own.

There is a need for health and social services and programmes targeted especially at young adults. Young people in this age range, during the transition to adulthood, are often labelled as adults. However, they face unique challenges and risks in this transition phase to adulthood and independent life as adults. The majority of young people aged 18–25 do not see themselves as adolescents, neither do they believe they have reached full adulthood (Arnett 2001). Arnett uses the term “emerging adulthood” to describe a new conception of development for the period from the late teens through the twenties, with a focus on ages 18–25 in the hope that a definite conception of this period will lead to an increase in scholarly attention to it. According to him, emerging adulthood is theoretically and empirically distinct from adolescence and young adulthood. “Having left the dependency of childhood and adolescence, and having not yet entered the enduring responsibilities that are

normative in adulthood, emerging adults often explore a variety of possible life directions in love, work, and worldviews” (Arnett 2000, 469). The heterogeneity of this age requires caution in making sweeping statements about individuals in this age group. Multidisciplinary services need to be configured to better match in this age period. Services need to be responsive to the range and characteristics of transitions, and thus sensitive to the perspectives of young people.

The findings on programme effectiveness, feasibility and acceptability are encouraging for interventionists and providers interested in adolescent well-being. Even small-scale support can have a positive impact on the well-being of young people. And, once identified, effective model programmes can also serve as examples to be replicated in other settings (Price et al. 1989), for example, in schools.

6.4 Challenges for future research

Despite the limitations conceded, the study provides important data on well-being and reaching out to young men – an age group rarely considered in the literature. First, the study raises questions about the help-seeking intentions of young men in this target group, which should be addressed in future research. Research is needed to investigate the mechanisms and processes underlying individuals’ decisions to adhere or not to programmes providing support. Second, future research should aim to identify the key components of evidence-based programmes that are essential to programme success and those elements that may be modified. Third, research is also needed on how to promote the effective implementation of the programme.

It may take a considerable time before research convincingly resolves whether improvements in the well-being or life situation among programme participants will actually reduce the incidence of mental disorders in the future. A longer-term follow-up would be informative in evaluating whether the programme effects are constant and whether the programme can promote positive long-term development for the participating men.

7. Conclusions

Based on the results of this study the following conclusions can be drawn:

1. Men exempted from compulsory military or civil service comprise a group of men with a wide range of psychosocial problems and a target group for supportive interventions.
2. Several psychosocial factors, such as major changes in the family, discord at the workplace, in the family or with girlfriend, lack of social support and financial difficulties may elevate the risk of suicidal behaviours among men exempted from compulsory military or civil service.
3. The findings on the efficacy of the Time Out! Getting Life Back on Track programme are encouraging: even small-scale support can reduce psychological distress in the target group.
4. The programme reached out particularly to young men who had psychological distress and suffered from an accumulation of problems. However, the men with the most problems could not be reached at all.
5. Young men who do not adhere to interventions form a heterogeneous group of men. The need for support can vary a great deal – even within an identified risk group.

8. Recommendations

1. There is a need for health and social services and programmes targeted especially at young adults. Young people in this age range face unique challenges and risks in the transition phase to adulthood. Multidisciplinary services need to be configured to fit with the period of young adulthood.
2. Attention should be paid to identifying and reaching out to marginalised young people to integrate them into the education process and to provide them with psychosocial support.
3. Health service providers working with young people should be well aware of social factors that may elevate the risk of mental ill-health or suicidal behaviours. Supporting a healthy network of family and peer relationships should be an important issue in suicide prevention activities.
4. Reaching out to young men at risk involves intense activity among service providers. Methods used, for instance, in outreach youth work should be applied. Further, the use of Internet and new technologies should be considered in reaching out to young men in need of support.
5. The call-up for compulsory military service offers an excellent opportunity to reach an entire male age cohort for the very last time after the comprehensive school system. This encounter between young people and society should be actively exploited in the prevention of psychosocial problems.
6. Wider dissemination of the Time Out! Getting Life Back on Track support in Finland is recommendable.

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Tampere, on a sunny day in August 2011

Kaija Appelqvist-Schmidlechner



ORIGINAL ARTICLE

Young men exempted from compulsory military or civil service in Finland – A group of men in need of psychosocial support?

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Abstract

Aims: The aim of this study was to find out whether young men exempted from compulsory military or civil service constitute a group of young men in need of psychosocial support from the social and health services. **Methods:** The study involved a total of 356 men exempted from military or civil service and 440 young men conscripted into service. The research data were collected using questionnaires and register data. **Results:** Men exempted from military or civil service differed from conscripts in terms of psychosocial well-being. Compared with conscripts, they had already been in a more disadvantaged position with regard to their childhood living conditions. As young adults, they had met with a greater number of mental and social problems than conscripts: alcohol-related problems, unemployment, financial problems, homelessness, lack of social support and psychological distress. Young men exempted from service typically suffered from an accumulation of problems. Diverse problems were common particularly among men who had interrupted their service. There was a moderate correlation between current and childhood adversities. **Conclusions:** Men exempted from military or civil service comprise a group with a wide range of psychosocial problems and are a target group for supportive interventions. Special attention should be paid to the prevention of problems and promotion of well-being of men who interrupt their service. The accumulation of problems poses a challenge for the development of such interventions.

Key Words: Adolescents, men, military service, prevention, problem gravitation, risk assessment, well-being

Introduction

Recent studies have indicated that the level of adolescent well-being is fairly high in Finland [1], and also compared with other Western countries [2]. Nevertheless, a sizable proportion of young people do not fare so well, with many not receiving the help they need. Well-being and ill health have been polarized as the gulf between those doing well and those struggling with adversities has widened [3].

Practitioners and researchers have expressed particular concern about the well-being of young men [4,5]. Psychosocial problems related to dropping out of school [6], alcohol abuse [7,8], drug abuse [7], long-term unemployment, financial difficulties [6] and delinquency [9] are more common and mortality [5]

higher among young men than among young women. Men are also less likely than women to seek professional help for their problems [10,11].

Different problems and risk factors commonly correlate with each other [12] and problems related to psychosocial development tend to accumulate over time [13]. It has also been shown that men are more likely to have cumulative problems than women [14].

How can we reach and identify young men at risk of decreased well-being? As a cohort, Finnish children and adolescents up to age 16 can easily be reached through the schools. After this, most of them, although not all, can be reached via various educational institutions. The next opportunity to reach an entire male age cohort is at the time of military conscription.

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Military or civil service lasting from 6 to 12 months is obligatory for all Finnish men. At 18, every Finnish man undergoes a medical examination for military or alternative civil service. The purpose of this examination is to get a preliminary assessment of their general health and fitness class for service. After the examination, everyone must attend call-up, where they undergo a brief medical examination. After this examination, a call-up board confirms the fitness class. Of those regarded as fit for military service, approximately 80% start their military service within two years after the call-up and the rest by the age of 30 years [15]. At call-up in 2008, 8% were exempted from service due to health reasons, 2% were ordered to civil service and 3% were exempted due to other reasons, for example for multinationality [16]. Finland differs from all other European countries with compulsory conscript service. In Finland 75% of the annual male cohort carry out their service nowadays. In Norway less than 30%, in Denmark less than 8%, and in Sweden less than 6% complete their service [16].

About a quarter of the annual age cohort (some 8,200 young men) do not carry out their military or civil service. At call-up in 2008, 8% were exempted from service due to health reasons. Approximately half of these cases are due to mental health disorders. Two per cent were ordered to civil service and 3% were exempted due to other reasons, for example for multinationality (for instance among Finnish citizens living permanent abroad). Moreover, 10% of conscripts interrupt their military service, approximately 40% of them because of mental health problems [16].

Previous studies conducted in Finland [15,17,18], Sweden [19] and Norway [20] have indicated that men exempted from military service suffer from a number of psychosocial problems and that these problems are often stable over time [19]. Especially those who are temporarily exempted from military service have gone through a wide range of psychosocial problems as well as childhood adversities [15,21].

The aim of previous studies has usually been to predict failures in the compulsory conscript service [15,17,20]. The psychosocial well-being of men exempted from service has not been studied systematically. Knowledge about the psychosocial well-being of these men is important in planning dedicated health services and other interventions. The purpose of this study was to find out whether young men exempted from service are in need of support from the social and health services. The study set out to analyze psychosocial well-being and the accumulation of problems among these men in comparison to men conscripted into service. Furthermore, we compared men exempted from

service at call-up with those interrupting their service at a later stage. This kind of comparison has not been included in previous studies.

Method

Data collection

The data were collected between 2004 and 2005 within the Time Out! Getting Life Back on Track project [22]. All men living in the cities of Helsinki and Vantaa, who were exempted from military or civil service were invited to take part in the study. The target group consisted of men who were either exempted from service at call-up or who had interrupted their service. The recruitment of the men is described in Figure 1. There were altogether 356 men exempted from service at call-up. The research assistants were able to contact 260 of them. Altogether 75 men (29%) refused to participate in the study. The number of men interrupting military or civil service was 431 and the research assistants contacted 256 of them. There were 85 men (33%) who refused to participate in the study. Thus, the sample of men exempted military or civil service consisted of 185 men exempted from service at call-up and 171 men who interrupted their service. Data on 440 men conscripted into service at call-ups in Helsinki and Vantaa on randomly selected days were used for comparison. The study group comprised altogether 796 men. Of these men, 356 were exempted from military or civil service at call-up or had interrupted their service during the study. The data were collected using questionnaires and register data.

At the call-up or when interrupting service, participants were given a baseline questionnaire to be returned in a sealed envelope, which ensured that reports about sensitive issues did not affect decisions made by military officials. The responses did not affect the medical examinations at military call-up or when interrupting service. Written informed consent was obtained from all participants.

The diagnosis-based military fitness class was gathered using registers maintained by the Finnish Defence Forces. The study protocol was approved by an ethics committee.

Instruments

Data on the following socio-demographic characteristics were collected with the questionnaires: age, marital status (single, partnership), living conditions (living alone, with parents/family, other), education (comprehensive school, upper secondary school) and employment (employed, student, not in employment

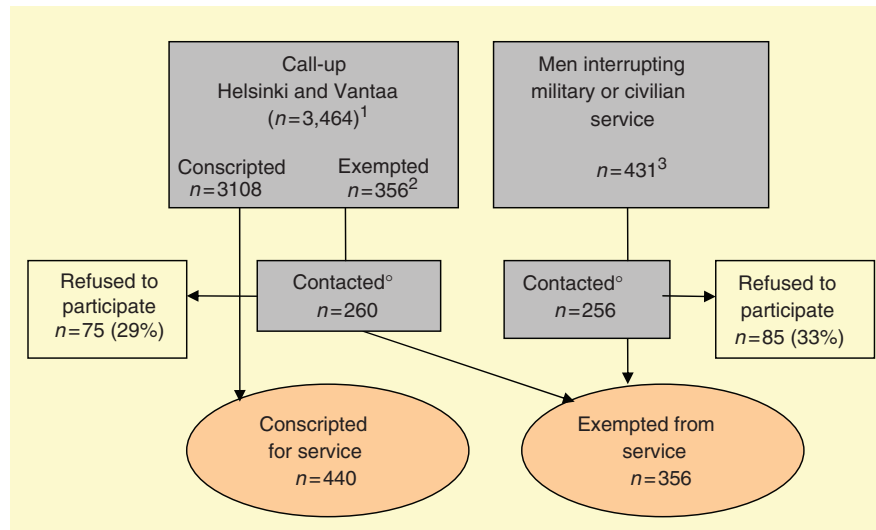


Figure 1. Study design and data collection.

¹Contains all men in Helsinki and Vantaa who were invited to call-up. ²Altogether 3,464 men were determined fit for military or civil service. Of these men, 356 were exempted from service. The number also contains those not actually present at call-up. ³The number of men interrupting civil service is based on an estimate by the civil service centre of Lapinjärvi. [°]Number of men at call up / number of men interrupting the service who could be reached by the research assistants of the Time Out! Getting Life Back on Track project.

or education). For purposes of assessing financial difficulties, the respondents were also asked whether they receive supplementary benefits.

Psychological distress was measured with the 12-item version of the General Health Questionnaire (GHQ-12), applying the standard GHQ scoring method (0-0-1-1) [23]. The scale is widely used and well validated in Finland with psychiatric outpatients and a community sample [24]. The summation of answers to all items yielded an individual sum score ranging from 0 to 12. In order to create a sum score of accumulation of problems, the variable was dichotomized. Those scoring more than three were classified as cases [23,24]. The Cronbach's alpha coefficient of the scale was 0.914.

Alcohol-related problems were assessed using the CAGE questionnaire [25]. The questionnaire includes four questions: (1) "Have you ever felt the need to cut down on your drinking?"; (2) "Have you felt annoyed by criticism of your drinking?"; (3) "Do you feel guilty about your drinking?"; and (4) "Have you ever had a drink in the morning to get rid of a hangover (an eye-opener)?". The responses were 1 = "Yes" and 0 = "No", the sum score ranging from 0 to 4. Two "Yes" responses indicated that the respondent may have alcohol-related problems. The Cronbach's alpha coefficient of this scale was 0.760.

Lack of social support was assessed with four questions about support (including emotional and practical support) received from other people (partner, other relatives, friends, co-workers, neighbours, other people or nobody). Answering one or more

questions with "I receive support from nobody" categorized the respondent as one lacking social support.

Accumulation of problems was measured with a sum score, including psychological distress (GHQ-12>3), alcohol-related problems (CAGE>1), unemployment, homelessness, receiving supplementary benefits and lack of social support. The sum score ranged from 0 to 6.

Accumulation of childhood adversities was measured with a series of questions about the childhood environment. The series has been used, for example, within the national health surveys in Finland [26]. Respondents were instructed to choose "No", "Yes", or "Cannot say" in the questions about financial difficulties, parental unemployment, parental medical illness or injury, paternal/maternal alcohol-related or mental health problems, family discord, parental divorce, serious or long-term illness as well as being bullied at school. "Yes" answers were coded positive for these questions and gave the total number of childhood adversities. The sum score ranged from 0 to 11.

Statistical analyses

Comparisons between study groups were carried out using a Chi-square test where appropriate. The sum scores of current and childhood problems were not distributed normally, and a non-parametric test (Mann-Whitney U-test) was therefore used in the analyses. Spearman's correlation coefficient was used to examine associations between current and

childhood adversities. A correlation coefficient of less than 0.3 was considered a low, 0.3–0.5 a moderate and above 0.5 a strong linear relationship [27]. The analyses were carried out with SPSS version 16.0. The level of significance was set at 0.05.

Participants

The study sample consisted of 796 men: 440 men were conscripted into military or civil service and 356 were exempted from service (185 were exempted at call-up and 171 interrupted their service). The grounds for exemption from service were mostly (55% of the cases) based on mental health. Exemption on mental health grounds was more common among men who had interrupted their service than among those exempted from service at call-up (71% vs. 43%, $p < 0.001$).

Men exempted from service were on average 20 years old (17–29, SD 2.56) and men conscripted into service on average 18 years old (17–27, SD 1.20). Men exempted from service at call-up were on average 19 years old (17–28, SD 2.23), whereas men who interrupted their service were on average 21 years old (18–29, SD 2.55; $p < 0.001$).

Results

Men exempted from service differed from men conscripted into service in several background variables (Table I). Conscripted men were more highly educated and studying at the time of the study, whereas many of the men exempted from service had already entered the workforce. Unemployment was more common among men exempted from service. Men who had interrupted their service were more likely to be unemployed (24% vs. 11%; $p < 0.01$) and to live alone (43% vs. 29%; $p < 0.01$) than those exempted from service at call-up. There were no differences in terms of marital status or education between men who had interrupted the service and those exempted from service at call-up.

Men exempted from service differed from men conscripted into service in terms of psychosocial well-being. Already from a young age, men exempted from service had been in a more disadvantaged position with regard to childhood living conditions (Table I). As a child, about one in four had experienced family discord, financial difficulties and paternal alcohol-related problems. One in three had also been bullied at school. Furthermore, the accumulation of childhood adversities was higher among men exempted from service compared with those conscripted into service (mean 2.01 vs. 0.81; $p < 0.001$). Three in four men exempted from service and less than half of the

men conscripted into service had experienced at least one childhood adversity (Figure 2).

No difference was found between men exempted from service at call-up and those interrupting their service in relation to the accumulation of childhood adversities. Men exempted from service at call-up differed from those interrupting their service only in terms of the variable of serious illness (28% vs. 7%, $p < 0.001$).

In young adulthood, men exempted from service had more psychosocial problems compared with men conscripted into service, problems such as psychological distress, alcohol-related and financial problems, unemployment, homelessness and lack of social support (Table I). Furthermore, the accumulation of problems was higher among men exempted from service (mean 1.32 vs. 0.41; $p < 0.001$). Two thirds of exempted men had more than one problem, compared with only one third of men conscripted into service (Figure 3).

Unemployment (24% vs. 11%, $p < 0.01$), psychological distress (55% vs. 34%; $p < 0.001$) and alcohol-related problems (44% vs. 29%; $p < 0.01$) were more common among men who had interrupted their service than among those exempted from service at call-up. The accumulation of problems was higher, as well (mean 1.61 vs. 1.04; $p < 0.001$).

The correlation between current and childhood adversities was low among men conscripted into service ($r = 0.21$) and moderate among men exempted from service ($r = 0.38$).

Discussion

This study indicates that there is a group of young men that can be identified as a potential group in need of support from the social and health services. The study shows that exemption from military or civil service is strongly associated with a wide range of psychosocial problems. The findings are in line with previous studies [15,17,19,21]. Multimäki and his colleagues [15] have found that although the purpose of assessing the military fitness class is primarily to help place conscript in suitable tasks, the fitness class can also be used as a general indicator of well-being.

The incidence of various problems among men exempted from service was relatively high when compared with results of previous national studies on the health and well-being of young men in Finland. While the incidence of psychological distress (as measured with GHQ-12) among men aged 18–24 years has previously been found to be 9% [28], in this study almost half of the men exempted from service were psychologically distressed. Exemption from military or civil service is always based on

Table I. Background and outcome variables of respondents ($n=796$).

Variables	Men conscripted into service		Men exempted from service		<i>p</i>
	<i>n</i>	%	<i>n</i>	%	
Marital status ($n=782$)					
Marriage or partnership	409	96	298	84	
Single	17	4	58	16	<0.001
Education ($n=74$)					
Comprehensive school	162	39	199	56	
Upper secondary school	258	61	155	44	<0.001
Employment ($n=772$)					
Employed	49	12	130	37	
Student	349	83	148	42	
Not in employment/education	20	5	76	21	<0.001
Living ($n=767$)					
Alone	19	4	62	18	
With family/parents	379	91	247	71	
Other	20	5	40	11	<0.001
Diagnosis for exemption from service ($n=321$)					
Mental and behavioural disorders			183	57	
Somatic disorders			138	43	
Childhood adversities					¹
Financial difficulties of family ($n=773$)	28	8	85	28	<0.001
Parental unemployment ($n=772$)	37	9	62	19	<0.001
Parental medical illness ($n=768$)	36	9	63	19	<0.001
Paternal alcohol-related problems ($n=772$)	44	11	78	24	<0.001
Maternal alcohol-related problems ($n=772$)	12	3	36	11	<0.001
Paternal mental health problems ($n=772$)	7	2	25	8	<0.001
Maternal mental health problems ($n=773$)	10	2	36	11	<0.001
Family discord ($n=771$)	38	10	83	27	<0.001
Parental divorce ($n=774$)	147	35	153	44	n.s.
Serious illness ($n=768$)	11	3	60	18	<0.001
Being bullied at school ($n=771$)	45	11	115	34	<0.001
Current psychosocial problems					
Not in employment/education ($n=772$)	18	4	62	18	<0.001
Homelessness ($n=778$)	1	0.2	14	4	<0.001
Receiving supplementary benefits ($n=774$)	22	5	63	18	<0.001
Alcohol-related problems (CAGE>1) ($n=757$)	87	21	126	36	<0.001
Psychological distress (GHQ-12>3) ($n=728$)	30	8	147	44	<0.001
Lack of social support ($n=776$)	20	5	55	16	<0.001

Note: Missing values are excluded in the percentage distributions.

¹With Bonferroni correction.

health grounds. About one half of the grounds for exemptions are due to mental problems. This can be seen in the high score of psychological distress measured with GHQ-12. Furthermore, somatic illness can also be associated with psychological distress [29]. Being in the military service or being afraid of it can cause psychological distress, as well.

The respondents filled out the questionnaire on the same day they became informed of the decision about the conscription for or exemption from the service.

For some, the exemption from military or civil service can be a big disappointment and in this way can cause temporary psychological distress. In Finland, most young men complete their service and it is still seen as a kind of a “driving license” for the future [30]. Nevertheless, for some people exemption from service can be a big relief. This can be the case, for instance, for somebody suffering from sleep disorder or somebody having problems adapting to the circumstances of the army. The items in the

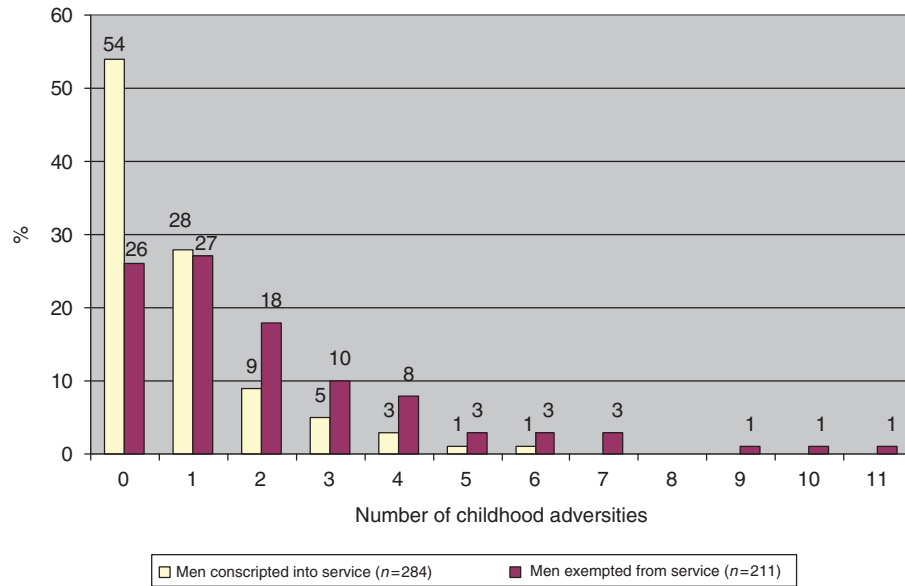


Figure 2. Accumulation of childhood adversities among men conscripted into service and men exempted from service.

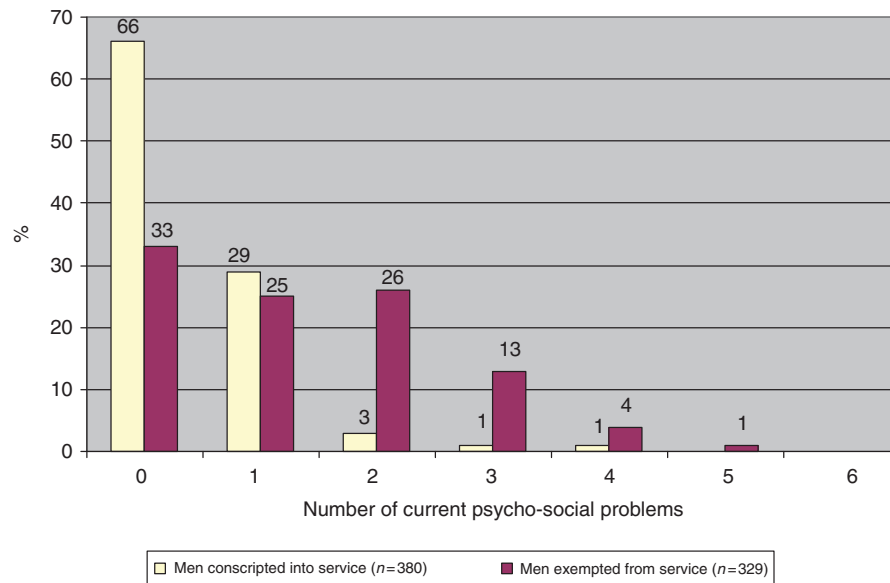


Figure 3. Accumulation of current psychosocial problems among men conscripted into service and men exempted from service.

GHQ-12 measure whether the respondent has experienced a particular symptom or behaviour recently compared to the situation usually [23]. Therefore, the psychological distress can be relatively high measured with this scale even if the exemption from service has been a relief. Compared with conscripted men, psychological distress was relatively high also among men exempted from service at call-up. About one half of the grounds for exemption from the service at call-up are based on mental health problems and one half on physical problems. Both are associated with mental distress [29,15].

Psychosocial problems were more prevalent among men who interrupted their service compared with those exempted from service at call-up. This can be explained by the fact that, in the study sample, men interrupting their service commonly had mental health problems, whereas somatic disease was the most common ground for exemption among men exempted from service at call-up. Mental health problems are often associated with a wide range of social problems. Moreover, men interrupting their service were also slightly older than those who were exempted at call-up, and were more likely to have

moved away from home, which often also affects the financial situation, for instance.

The accumulation of problems was higher among men exempted from service compared with those conscripted into service. The problems encountered in adolescence are often not determined by one single factor but, rather, are a result of an interaction of several factors. Having problems in any area can increase the accumulation of complicating factors [14]. What is more, accumulated problems tend to continue after early adulthood. Psychological distress among young adults, for example, is indicated to be stable over time and associated with lack of social support, financial difficulties, chronic illness and high alcohol consumption [31]. These factors can influence each other, mutually complicating the achievement of psychosocial and normative developmental tasks in adolescence.

There was a moderate correlation between childhood and current adversities among men exempted from service. Among men conscripted into service the association was only low. In previous studies childhood adversities have been found to be associated with a wide range of health-related problems in young adulthood, such as psychiatric disorders [32], psychological distress [26], smoking, heavy drinking and obesity [33]. Men conscripted into service may have had individual personal resources in their lives that have protected them against adverse development and reduced the risk of accumulating problems in early adulthood.

Limitations

Some methodological issues with regard to the study should be considered. Firstly, all measures were self-reported. The results are subjective and may have been affected by social desirability. Therefore, the respondents may have underestimated their alcohol use and diverse problems, for instance. Furthermore, disqualification and interruption of military service can be associated with intense reactions such as distress or relief, which can lead to bias in the reporting of general well-being.

Another possible limitation is the nature of the sample. The study was limited to urban areas and the results may not be applicable to rural areas. Previous studies have shown differences in the health and well-being of adolescents between urban and rural areas. For example, problems with substance abuse have been found to be more common among adolescents living in metropolitan areas than among those living in rural areas [1].

Thirdly, the accumulation of childhood adversities and current problems was summed up in an index and the problems were treated as equally important, although their contribution to the overall difficulties may not be equal. It should also be noted that the study demonstrates the situation of young men in the target group at a given moment. As this period of life is one fraught with changes, some of the problems relating to living conditions, financial circumstances and professional careers can also be very short-term and temporary.

Furthermore, all men exempted from service could not be reached and about a third refused to participate in the study. Accordingly, some selection bias may have occurred.

Conclusion

Men exempted from military or civil service make up a group with a wide range of psychosocial problems and are a target group for supportive interventions. The accumulation of problems poses a challenge for the development of such interventions. When problems accumulate, it should be important to support the young person comprehensively, rather than focusing on a single symptom or behavioural problem. The Finnish support programme *Time Out! Getting Life Back on Track* has been developed for this specific purpose. Overall, the findings on programme effectiveness, feasibility and acceptability are encouraging [22].

The call-up for obligatory military service offers an excellent opportunity to reach an entire male age cohort at the very last time after the comprehensive school system. This should be seen as a unique chance to reach those who are likely to need support from the social and health services. This encounter between young people and society should be actively made use of in the prevention of psychosocial problems. What is more, special attention should be paid to the prevention of problems and the promotion of well-being among men who interrupt their military or civil service. The same model of identifying and reaching adolescents in need of support can also be adapted to school drop-outs.

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ORIGINAL ARTICLE

Psychosocial factors associated with suicidal ideation among young men exempted from compulsory military or civil service

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Abstract

Aims: The aim of this study was to identify factors associated with suicidal ideation among young men exempted from compulsory military or civil service in Finland. **Methods:** The study involved a total of 356 men exempted from military or civil service. The research data were collected using questionnaires and register data. **Results:** One third of the young men exempted from compulsory military or civil service reported serious suicidal ideation. Of the men with serious suicidal ideation, one third had attempted suicide. Various childhood adversities and current stressful life events and problems were associated with suicidal ideation. Multivariate logistic regression analysis showed that the following factors were independently associated with suicidal ideation: maternal alcohol-related problems, changes in the family, discord with the boss over the past 12 months, and lack of social support. Accumulation of problems predicted suicidal ideation. **Conclusions:** Men exempted from compulsory military or civil service comprise an important target group in the prevention of suicide. In order to prevent suicidal behaviour among young men at risk, it is important to address the significance of social support and relationships, and likewise to be aware of early risk indicators such as maternal alcohol-related problems.

Key Words: Men, mental health, military service, prevention, suicidal ideation, young adulthood

Background

Suicide is one of the top three causes of death among young men in many countries [1], and in Finland the most common cause of mortality among young people [2]. Most suicides can be seen as the endpoint of prolonged difficulties rather than as impulsive acts [3] – “a continuum beginning with ideation, continuing to attempted suicide, and ending with completed suicide” [4]. Runeson and his colleagues [5] found that this process is shorter among young males than among females. Furthermore, young men less commonly communicated suicidal intent or sought help for their problems [6,7].

Previous studies have shown various risk factors to be associated with suicidal ideation, such as diverse adversities in childhood [7–9]. Less is known about the recent adverse life events that often aggregate with suicidal tendencies [10]. Concerning minors and adolescents, previous studies have usually been school-based and have focused on schoolchildren or students [8,9]. Less attention has been paid to the characteristics of suicidal ideation in at risk-groups among young adults. For the prevention of suicide it is important to identify those young people who are at risk and to investigate risk factors in this group.

Examining risk factors, however, is only one method for increasing our understanding of

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at-risk youth. There are also protective factors – such as social support or leisure activities – which can reduce the risk of suicide [11,12].

The aim of this study is to find out if there are associations between suicidal ideation and stressful life events and current problems as well as those in childhood. The study focuses on young men exempted from compulsory military or civil service in Finland – an identified group of young men with various psychosocial problems [13,14]. As well as risk factors, this study aims to find out if there is evidence of an association between suicidal ideation and participants' leisure activities.

Method

Study design

The data were collected between 2004 and 2005. All men living in the cities of Helsinki and Vantaa who had been exempted from compulsory military or civil service at call-up or who failed to complete the service during the period of July 2004 to June 2005 were personally invited to take part in the study ($n=516$). Of these, 160 men (31%) refused to participate. Thus, the sample consisted of 356 young men.

The data were collected using questionnaires and register data. At call-up or when failing to complete the service, participants were given a baseline questionnaire to be returned in a sealed envelope, which ensured that their answers did not affect the decisions made by military officials. The diagnosis-based military fitness class was ascertained by reference to registers maintained by the Finnish Defence Forces. Written informed consent was obtained from all participants. Separate permissions to collect register data were sought from study participants. The study protocol was approved by the ethics committee of Stakes (National Research and Development Centre for Welfare and Health).

Measurements

Suicidal ideation was measured with a question "Have you ever in your lifetime seriously thought of killing yourself? The answers were "No, never", "Yes, the last time less than six months ago", "Yes, the last time 6–12 months ago" and "Yes, the last time more than 12 months ago". The question was used in the Finnish Health 2000 survey [15].

Childhood adversities were measured with a series of questions used earlier in the Finnish Health 2000 survey [16,17]. Respondents were instructed to choose "No", "Yes", or "Cannot say" in response

to questions on various childhood adversities (see Table I.). "Yes" answers were coded positive for these questions and gave the total number of childhood adversities. The sum score of accumulated childhood adversities ranged from 0 to 11.

Alcohol-related problems were assessed using the Cutdown, Annoyed, Guilt, Eye-opener (CAGE) questionnaire [18], which is one of the most widely studied self-report instruments in screening for alcohol problems. It consists of four questions: 1) "Have you ever felt the need to cut down on your drinking?"; 2) "Have you felt annoyed by criticism about your drinking?"; 3) "Do you feel guilty about your drinking?" and 4) "Have you ever had a drink in the morning to get rid of a hangover?". The responses were 1 = Yes and 0 = No. At least two "Yes" responses indicated that the respondent may have an alcohol problem.

Lack of social support was assessed with four questions about the support received from other people (spouse, other relative, friend, colleague, neighbour, other person and nobody). Answering one or more questions with "I receive support from nobody" categorized the respondent as lacking social support. The scale was generated by Sarason et al. [19] and was used in the Finnish Health 2000 Survey [20].

Stressful life events: Parts of the Life Change Inventory [21] were used to determine potential stress factors in the last 12 months. The scale has been used extensively in studies of psychosocial stress. The participants were asked which of the life events on a 12-item list (see Table II) had occurred over the previous 12 months. In Finland a modified version of this Scale was used to investigate predictors for failure to complete compulsory military or civil service [13].

Accumulation of stressful life events and current psychosocial problems was measured in terms of a sum score, which included the following variables: alcohol-related problems ($CAGE > 1$), unemployment, homelessness, lack of social support and the items relating to stressful life events. The sum score ranged from 0 to 16.

Leisuretime activity was measured with a questionnaire consisting of 11 commonly practised leisuretime activities. This was used in the Finnish Health 2000 survey [15]. Respondents were asked to report how often they engaged in these activities using a five-point scale with the following categories: "Every or almost every day", "Once or twice of week", "Once or twice a month", "Once or twice a year" and "Less often". For the analysis, three categories were formed: at least once or twice a week, once or twice a month, and once or twice a year or less often. For the daily activities, such as "Reading books, listening

Table I. Univariate associations between serious suicidal ideation and childhood adversities among young men exempted from compulsory military or civil service in Finland.

Childhood adversities	<i>n</i>	Odds ratio	95% confidence interval	<i>p</i>
Financial difficulties in the family				
No	189	1		
Yes	65	2.28	1.17–4.43	0.015
Parental unemployment				
No	227	1		
Yes	50	1.75	0.85–3.60	0.129
Parents' serious illness or disability medical illness				
No	234	1		
Yes	51	2.22	1.12–4.39	0.022
Paternal alcohol-related problems				
No	217	1		
Yes	64	2.05	1.08–3.91	0.028
Maternal alcohol-related problems				
No	257	1		
Yes	30	3.32	1.49–7.39	0.003
Paternal mental health problems				
No	254	1		
Yes	18	3.51	1.28–9.61	0.015
Maternal mental health problems				
No	260	1		
Yes	27	2.01	0.83–4.88	0.122
Serious conflicts within the family				
No	195	1		
Yes	61	3.17	1.61–6.23	0.001
Parents' divorce				
No	169	1		
Yes	126	1.71	0.97–3.03	0.064
Own serious or chronic long-term illness				
No	236	1		
Yes	48	1.30	0.61–2.74	0.496
Being bullied at school				
No	196	1		
Yes	91	2.95	1.63–5.34	0.000

to music", "Watching TV", "Reading newspapers", and "Playing computer games" the categories "Almost every day", "Once or twice a week" and "once or twice a month or less often" were used.

Further, the following *socio-demographic characteristics* were gathered with the questionnaire: marital status (single, partnership), own/parents' education (comprehensive school, upper secondary school), living conditions (alone, with parents/family, other, homeless), and employment (employed, student, not in employment or education).

The diagnosis-based (ICD-10) military fitness classification was gathered using registers maintained by the Finnish Defence Forces.

Sample

The sample consisted of 356 young men. Of these, 185 men were exempted from service at call-up and 171 had failed to complete the service.

The respondents ranged in age from 17 to 29 years. The mean age was 20 (SD 2.56). The grounds for exemption from service were mostly (55% of the cases) mental health problems (F-diagnosis, ICD-10), and 45% were based on somatic problems. From the total sample of 356 men, 351 answered the question about suicidal ideation.

Statistical analyses

To examine the characteristics of men with suicidal ideation in young adulthood, two study groups were differentiated: those who had suicidal thoughts during the last 12 months and men with no suicidal ideation. Men reporting suicidal ideation more than 12 months ago were excluded from the regression analysis. The associations between suicidal ideation and independent variables were quantified by calculating odds ratios (OR) and 95% confidence intervals (95% CI). Variables identified as significant

Table II. Univariate associations between serious suicidal ideation, stressful life events and current psychosocial problems during past year among young men exempted from compulsory military or civil service in Finland.

Stressful life events during past one year and current psychosocial problems	<i>n</i>	Odds ratio	95% confidence interval	<i>p</i>
Stressful life events:				
Major changes related to family				
No	207	1		
Yes	91	2.31	1.28–4.15	0.005
Family discord				
No	190	1		
Yes	110	3.08	1.72–5.51	0.000
Discord with superior at workplace				
No	275	1		
Yes	24	4.85	2.05–11.46	0.000
Getting fired at work				
No	277	1		
Yes	22	2.02	0.78–5.20	0.146
Loan of more than €10,000				
No	278	1		
Yes	22	1.19	0.42–3.37	0.740
Financial difficulties				
No	128	1		
Yes	172	2.41	1.29–4.50	0.006
Personal illness or injury				
No	149	1		
Yes	149	1.00	0.57–1.76	1.000
Abandoning hobby				
No	233	1		
Yes	66	.88	0.44–1.78	0.720
Sleeping difficulties				
No	159	1		
Yes	139	4.60	2.42–8.71	0.000
Girlfriend or wife being pregnant				
No	280	1		
Yes	20	2.31	0.88–6.06	0.090
Discord with the girlfriend or wife				
No	231	1		
Yes	67	2.49	1.34–4.60	0.004
In-law problems				
No	229	1		
Yes	67	.76	0.37–1.57	0.457
Current psychosocial problems:				
Alcohol abuse (CAGE > 1)				
No	201	1.0		
Yes	96	2.95	1.64–5.29	0.000
Unemployment				
No	250	1.0		
Yes	48	.90	0.41–1.98	0.794
Homelessness				
No	288	1.0		
Yes	12	4.33	1.35–13.96	0.014
Lack of social support				
No	251	1.0		
Yes	48	2.35	1.19–4.66	0.014
F-diagnosis (ICD-10) at call-up or when failing to complete service				
No	128	1.0		
Yes	136	5.81	2.68–12.59	0.000

predictors for suicidal ideation were used for multi-variable logistic regression analysis (method: forward, Wald) to assess the independence of factors associated with risk of suicidal ideation, and to control for confounding factors. All statistical analyses were performed using the PASW statistic 18.0 software program. The level of significance was set at 0.05.

Results

One third (32 %) of the participants reported that they had seriously considered suicide. Of these, 33 men had had thoughts of suicide in the previous six months, 27 men in the previous 6–12 months and 51 over 12 months ago. There were no differences in the prevalence of suicidal ideation between the men who had failed to complete service and those who had been exempted from service at the call-up. Moreover, no association was found between suicidal ideation and the participant's own education, education of parents, marital status or living conditions.

Of the men with serious suicidal ideation, one third (30 %) reported that they had tried to kill themselves (Figure 1).

Various childhood adversities predicted suicidal ideation among the men in the sample. A significant association was found with financial difficulties in the family, parental medical illness, paternal/maternal alcohol-related problems, paternal mental health problems, family discord and being bullied at school. Suicidal ideation was not associated with parents' unemployment, maternal mental health problems, parental divorce or own serious long-term illness (Table I).

Of current stressful life events and psychosocial problems, major changes related to family, family discord, discord with a superior at work, financial difficulties, sleeping difficulties, discord with the girlfriend/wife, alcohol abuse, homelessness, and lack of social support were significantly associated with serious suicidal ideation. Psychiatric diagnosis at call-up or when failing to complete service markedly increased the risk for suicidal ideation. No association was found between getting fired at work, major burden of debt, own illness, abandoning hobby, girlfriend being pregnant, in-law problems or unemployment (Table II).

When all the significant variables in the univariate analyses were taken into a multivariate logistic regression analysis, maternal alcohol-related problems ($p < 0.027$), changes in the family during the past 12 months ($p < 0.004$), lack of social support ($p < 0.001$) and discord with the superior at work during the past 12 months ($p = 0.030$) were

independently associated with serious suicidal ideation in the past 12 months (Nagelkerke $R^2 = 0.32$, model fitting $p = 0.032$).

Accumulation of problems predicted suicidal ideation. With four or more childhood adversities or eight or more current stressful life events/problems the risk of suicidal ideation increased markedly (Table III).

Inviting friends or relatives home or visiting them as well as watching television, listening to radio and reading newspapers seemed to serve as protective factors against suicidal ideation in young adulthood. There was no significant association between sport and reduced risk of suicidal ideation. Engagement in handicrafts, art, music etc. was associated with increased risk of suicidal ideation (Table IV).

Discussion

One third of the men exempted from compulsory military or civil service in Finland had experienced serious suicidal thoughts. Suicidal ideation was much more common in this study compared with the findings of earlier studies [7,9]. The 12-month prevalence of suicidal ideation among 18–24 year olds in Finland has been shown to be 1.2% in males and 2.9% in females [10]. The difference in the prevalence of suicidal ideation compared with earlier studies [7,10] can be explained by the fact that the sample consisted of young men with various psychosocial problems who can therefore be deemed a vulnerable group [14]. Further, a notable and alarming finding was that one third of the men with suicidal ideation had in fact attempted suicide. Men exempted from compulsory military or civil service comprise an important target group in the prevention of suicide.

Suicidal ideation was associated with various adversities in childhood as well as with current stressful life events or problems. As reflected in existing research, almost all childhood adversities were significantly associated with suicidal ideation. Childhood adversities such as being bullied or depressive symptoms have been found to be common risk factors for psychological distress, depression and suicidal ideation in young adulthood [7–9,16].

Furthermore, numerous current stressful life circumstances were found to be associated with suicidal ideation among young men exempted from service. Many of these were related to problems in human relationships. This finding, too, is consistent with earlier research. Hintikka [10] found that adequate social networks and social support, and also a

Table III. Associations between suicidal ideation and accumulation of problems (stressful life events and current psychosocial problems during past year).

Accumulation of adversities	<i>n</i>	Odds ratio	95% confidence interval	<i>p</i>
Childhood adversities				
No adversities	48	1 (reference)		
1 adversity	51	2.00	0.47–8.49	0.348
2 adversities	28	2.50	0.52–12.10	0.255
3 adversities	19	2.81	0.51–15.38	0.233
4 adversities	14	6.00	1.16–31.13	0.033
5 or more adversities	20	6.43	1.42–29.10	0.016
Stressful life events and current psychosocial problems				
No problems	17	1 (reference)		
1 problem	35	2.07	0.21–20.04	0.532
2 problems	51	2.98	0.34–25.73	0.322
3 problems	40	2.29	0.25–21.19	0.467
4 problems	36	2.58	0.28–24.00	0.405
5 problems	30	5.82	0.66–51.28	0.113
6 problems	29	5.09	0.57–45.58	0.146
7 problems	16	7.27	0.74–71.11	0.088
8 or more adversities	27	12.80	1.48–110.79	0.021

well-functioning family structure are associated with reduced risk of suicidal behaviours [10]. Adolescents with suicidal ideation commonly have less social support [10,12].

Multivariate logistic regression analysis showed that maternal alcohol problems in childhood, major changes in the family, discord with the superior at work and lack of social support were independently associated with suicidal ideation in young adulthood. For this analysis, psychiatric diagnosis was controlled for even if existing research suggests that psychiatric diagnosis at conscription is not associated with an increased risk of suicide [22]. The explanation for this result may be found in the nature of the life phase in the target group. Young adulthood is a developmentally critical period in the lifespan. Young adults are subjected to many new pressures and challenges in their daily lives. Leaving the parental home for the first time, financial worries, limited employment or educational opportunities, work-related problems or worries about human relations may exacerbate high levels of stress, which can trigger mental distress. Social integration and functioning relations in particular are key factors for mental well-being. Studies have reported reduced morbidity and delayed mortality among people who are socially integrated. The quality of social relationships in the home (parent-child relations and spousal ties) and the workplace (employer-employee relations and co-worker connections) are recognized as key influences on physical and mental health [23]. It was interesting to note that alcohol abuse did not seem to play a significant role in the multivariate analysis. This result may be

explained by the fact that alcohol abuse is commonly associated with many other psychosocial problems and therefore – even as a strong predictor for suicidal ideation in the univariate analysis – was not significant together with other factors.

Accumulation of adversities or problems markedly increased the risk for suicidal ideation in young adulthood. A significant association was found with four or more childhood adversities and eight or more current stressful life events or problems. Nevertheless, even two or three problems doubled or tripled the risk for suicidal ideation. However, it should be noted that this finding was not statistically significant and therefore needs to be interpreted with caution. Nevertheless, accumulation of problems is a well-known phenomenon among young men at risk [14,24]. Problems encountered in young adulthood that cause psychological distress are often not determined by one single factor but rather are a result of an interaction of several current problems as well as childhood adversities. Having problems in any area can increase the accumulation of problems and therefore complicate the life course of a young man.

Accumulation of problems poses a challenge for the development of interventions in the prevention of suicide targeted at young men. Studies have suggested that many individuals with suicidal behaviours who have received services report that their needs were not fully met [25]. Young men with suicidal ideation may have complex needs. Besides mental distress, they may face sub-standard housing, financial difficulties and a lack of opportunities to develop independence and social engagement.

Table IV. Univariate associations between suicidal ideation and leisure activities.

Leisure activities	<i>n</i>	Odds ratio	95% confidence interval	<i>p</i>
Clubs and societies				
At least once or twice a week	24	1		
Once or twice a month	23	4.81	0.88–26.30	0.070
Once or twice a year or less often	252	2.79	0.64–12.26	0.174
Indoor sport				
At least once or twice a week	93	1		
Once or twice a month	72	1.15	0.51–2.59	0.744
Once or twice a year or less often	135	1.62	0.82–3.19	0.167
Outdoor sport				
At least once or twice a week	108	1		
Once or twice a month	94	0.88	0.44–1.75	0.705
Once or twice a year or less often	93	0.89	0.45–1.77	0.733
Bars, pubs, restaurants, dancing				
At least once or twice a week	94	1		
Once or twice a month	120	0.69	0.36–1.36	0.286
Once or twice a year or less often	83	0.84	0.41–1.72	0.640
Reading books, listening to music				
Almost every day	199	1		
Once or twice a week	50	0.56	0.24–1.32	0.185
Once or twice a month or less often	48	0.58	0.25–1.39	0.225
Handicrafts, art, playing music, singing, photography, painting				
At least once or twice a week	106	1		
Once or twice a month	54	0.71	0.32–1.57	0.401
Once or twice a year or less often	137	0.50	0.27–.95	0.034
Visiting relatives or friends				
At least once or twice a week	171	1		
Once or twice a month	95	1.15	0.60–2.19	0.684
Once or twice a year or less often	33	3.18	1.42–7.12	0.005
Inviting friends or relatives home				
At least once or twice a week	143	1		
Once or twice a month	86	3.25	1.62–6.54	0.001
Once or twice a year or less often	69	3.02	1.44–6.33	0.004
Watching TV, listening to radio				
Almost every day	215	1		
Once or twice a week	61	1.62	0.81–3.21	0.210
Once or twice a month or less often	20	4.07	1.57–10.53	0.004
Reading newspapers or magazines				
Almost every day	138	1		
Once or twice a week	102	0.93	0.46–1.87	0.839
Once or twice a month or less often	59	2.76	1.38–5.54	0.004
Playing computer games, video games etc.				
Almost every day	125	1		
Once or twice a week	101	0.96	0.49–1.90	0.911
Once or twice a month or less often	72	1.59	0.80–3.18	0.189

Therefore, their life situation needs to be seen from various perspectives, such as psychological and physiological well-being, interpersonal relations, life situation and future plans, economic situation, living conditions and leisure activities. Multidisciplinary work is needed to prevent the accumulation of psychosocial problems and suicide, which can be seen – at worst – as an endpoint of accumulated problems among young adults.

This study found some leisure activities to be associated with suicidal ideation.

Social relationships, in addition to being among the risk factors, also played an important role as protective factor. Inviting friends or relatives home seemed to serve as a protective factor against suicidal ideation in young adults. King and Merchant [26] suggested that engagement in social activities with peers serves a protective function, as it indicates less

social isolation, which has been linked more directly to lower suicide risk. Watching television, listening to radio and reading newspapers also seemed to protect against suicidal ideation. It is difficult to explain this finding, but it may be related to a general interest in what is going on in the world and to being integrated into society. One other possible explanation is that watching television and listening to music serve as a way to escape the real world when burdened by personal problems.

Engagement in handicrafts, art, music etc. was associated with an increased risk of suicidal ideation. This finding is in line with the findings of Mazza and Eggert [27]. It may be that engaging in this kind of activities attracts specially marginalized or isolated youth who have not found their place in more social or structured activities. Other studies have shown that participation in structured leisuretime activities (with regular participation) can serve as a protective factor in adolescents' suicidal behaviour [11,27].

Surprisingly, there was no significant association between sport and reduced risk of suicidal ideation, even if participation in structured leisuretime activities, such as physical activity, has been suggested in several studies to reduce suicidal ideation and suicide attempts [11,12,27]. This finding was consistent with those of Choquet and Kovess [28], who found no relationship between participation in sports and suicidal ideation among French and Canadian adolescents.

Limitations

Some limitations of the study should be mentioned. First, information about participants was based solely on self-reports. The reliability of the data related to childhood adversities may be affected by recall bias. Furthermore, the results may have been affected by social desirability, even if anonymity was ensured. However, the questionnaire responses did not affect the decisions made by military officials or the customary medical examinations at military call-up or when failing to complete service.

Second, the study does not provide causal evidence related to stressful life events and current problems. We cannot determine whether these occurred concurrently with the reported suicide ideation. However, they occurred within a period of 12 months. It should also be noted that the study demonstrates the situation of young men in the target group at a given moment. As this period of life is one fraught with changes, some of the problems relating to living conditions, financial circumstances and professional careers may also be very short-lived and temporary.

Third, measures related to leisure activities did not reveal if the engagement in the activities was structured or not.

A fourth possible limitation is the nature of the sample. The study was limited to young males in urban areas and the results may not be applicable to young females or to rural areas. Furthermore, the number of participants reporting suicidal ideation in the past 12 months in the sample was relatively small, which inhibits extensive generalization.

Fifth, not all men exempted from service could be reached and about a third refused to participate in the study. Accordingly, some selection bias is possible. No information was available on the non-participants, making it impossible to compare them with participants. It has been suggested that individuals who choose not to participate in such studies may in fact be those who demonstrate a greater severity of suicidal behaviour [29].

Despite these limitations, however, the study provides important data on suicidal ideation in an identified group of young adults – an age group rarely considered in the literature. It also provides insight into leisure activity involvement among at-risk youth and helps to gain a better understanding of young men at risk of suicide. Identification of risk and protective factors associated with suicidal ideation plays an important role in the development of interventions targeted at this group of young men or at-risk groups in general. Special attention should be paid in a comprehensive way to the prevention of problems and the promotion of well-being among young men. The Finnish Time Out! Getting Life Back on Track support programme [30] has been developed for this purpose and serves as a good example of a comprehensive support programme for young men integrating promotive and preventive strategies.

Conclusion

The findings highlight the need for health providers working with young people to be aware of non-clinical factors that may elevate the risk of suicidal behaviours, such as major changes in the family; discord in the workplace, in the family or with girlfriend; lack of social support and financial difficulties. Early identification of childhood adversities followed by appropriate support and interventions play an important role in preventing mental health problems in young adulthood. Comprehensive preventive activities are needed especially for young men at risk of suicide. An intersectoral approach is required because the determinants of suicidal

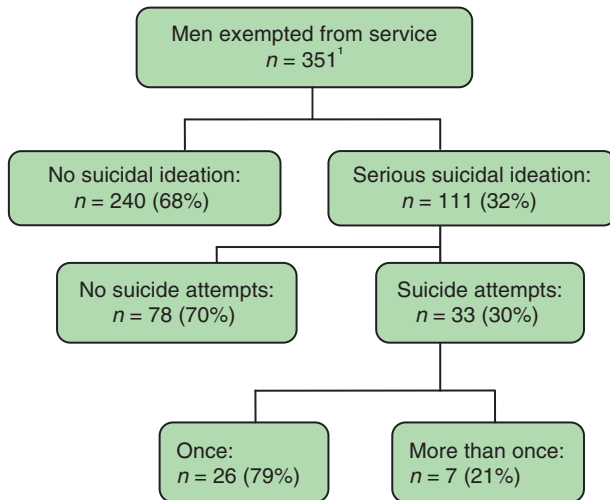


Figure 1. Frequency of serious suicidal ideation and suicide attempts among young men exempted from compulsory military or civil service in Finland.

¹From the whole sample of 356 men, 351 answered the question about suicidal ideation.

behaviour very often lie in the domains of non-health sectors. Supporting a healthy network of family and peer relationships should be an important issue in suicide prevention activities. The aim of a further study is to analyze the use of mental health services and its association with suicidality among this group of young men. The study also raises questions about the help-seeking intentions of young men in this target group, which should be addressed in future research.

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Conflict of interests

None declared.

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Psychosocial Support Programme for Young Men at Risk: Who Participates, Who Drops Out?

Key words: adherence; help-seeking; young men; intervention; prevention; mental health

Introduction

Men are less likely than women to seek professional help for problems as diverse as depression, substance abuse and stressful life events (Aalto-Setälä *et al*, 2002; Alonso *et al*, 2004; Drapeau *et al*, 2009). In particular, young men with a wide range of psychosocial problems are often beyond the reach of health and social services (Biddle *et al*, 2004; Sourander *et al*, 2004; Oliver *et al*, 2005; Rickwood *et al*,

2005). Biddle and colleagues (2004) investigated the help-seeking behaviours of mentally distressed young adults with a sample of 3004 young adults aged 16–24. They found that males were less likely to have sought some form of help than females. Males also appeared to have a higher threshold of severity for help-seeking than females, particularly for help from a general practitioner. Oliver and colleagues (2005) investigated patterns of lay and professional help-seeking in men and women aged 16–64 years in relation to severity of symptoms and socio-demographic variables with a large British sample. The results showed that only 28% of people with extremely high psychological distress had sought some

A B S T R A C T

The purpose of this study was to examine the characteristics of men who do or do not adhere to a psychosocial support programme. The study involved 170 young men exempted from compulsory military or civil service. The data were collected in a randomised controlled trial by using questionnaires and official registers in Finland. The support programme specifically reached out to young men who had psychological

distress and suffered from an accumulation of psychosocial problems. However, men with the most problems could not be reached at all. This study highlights the complexity of adherence to psychosocial interventions. Young men who do not adhere to preventative interventions are a heterogeneous group of men. The need for support can vary a great deal even within an identified risk group.

form of help. Males, young people and people living in affluent areas were the least likely to seek help.

Observed gender differences in help-seeking suggest important differences in the way in which men and women respond to mental health problems. Gender and the way we are socialised into different cultural norms have a big impact on the how men interact with mental health services. The social roles of boys and girls in our community make it more acceptable for girls to admit and express emotional needs. The stereotype of the tough, strong and resilient male who hides emotion, pain and distress is deeply ingrained in society and may affect men's help-seeking behaviour (Good *et al*, 1989; Tudiver & Talbot, 1999; Möller-Leimkühler, 2002; O'Brian *et al*, 2005). Males seem to have a 'do-it-yourself' perspective on psychosocial problems (Rule & Gandy, 1994). Help-seeking implies loss of status, loss of control and autonomy, incompetence, dependence and damage to identity (Davies *et al*, 2000; Möller-Leimkühler, 2002; Addis & Mahalik, 2003). This can explain men's unwillingness to express emotions that represent weakness, fear, sadness or disappointment. Levant (1990) identified four internal barriers that hinder men's help-seeking: difficulty in admitting the existence of a problem, difficulty in seeking help, difficulty in identifying and processing emotional status, and fear of intimacy.

Another possible explanation for the differences between the genders in help-seeking is that boys and young men do not as easily recognise psychological distress, for example, for what it is. Females have higher mental health literacy than males (Rickwood *et al*, 2005; Burns & Rapee, 2006). Women are more likely than men to interpret symptoms associated with depression and low general well-being as signs of emotional problems (Kessler *et al*, 1981). Restrictive emotional openness and emotional skills are also seen as a reason why young men do not seek help (Davies *et al*, 2000; Ciarrochi *et al*, 2003; Rickwood *et al*, 2005). Girls are in general better than boys at expressing their emotional world to others (Rickwood *et al*, 2005). They are also more likely to recognise their psychological distress and share it with others.

Besides gender differences, studies dealing with help-seeking for mental health problems have traditionally investigated young people's perceptions of the kind of help they might make use of if they were experiencing problems. Less attention has been paid to the success of adhering to interventions and programmes that provide support for young people. Hüsler *et al* (2005) found that the higher the risk related to psychosocial problems, the lower the success rate of integration following the intervention among young people. According to a meta-analysis (Kampman, 2004) patients most associated with non-adherence to psychiatric treatment

are young males with a history of substance abuse, low social functioning or unemployment, or with limited insight into their illness.

The importance of adherence to the outcome of interventions is well recognised (Stuart *et al*, 2008), but it has often been seen simply as an inconvenient study limitation. Most of the studies on intervention adherence are related to pharmacological treatment (Kampman, 2004; Åkerplad *et al*, 2008); less attention is paid to the characteristics that predict adherence in non-medical interventions. As young males in particular are known to be reluctant to seek help and to adhere to interventions (Biddle *et al*, 2004; Oliver *et al*, 2005), gender-specific research should be undertaken. In the literature, very little is to be found on the question of the difficulties in reaching out to young men in psychosocial interventions. The complexity of adherence to psychosocial interventions is frequently under-estimated.

The purpose of this study is to examine the characteristics of men who do or do not adhere to a psychosocial support programme. The study also aims to investigate whether the number of problems is associated with reaching out and adhering to the programme. This study is part of the Time Out! Getting Life Back on Track project, which was designed to develop a psychosocial support programme for prevention of psychosocial problems, as well as to promote general well-being among young men. The outcomes of the programme were evaluated in a randomised controlled trial (Appelqvist-Schmidlechner *et al*, 2010a).

Method

Study design and participants

The target group of the Time Out! Getting Life Back on Track support programme were young men. In the project and in this study, young men comprise those under 29 years of age (*Youth Act 72/2006*). The target group of the study consisted of men who were exempted from compulsory military or civil service – a group of young men with various psychosocial problems (Appelqvist-Schmidlechner *et al*, 2010b). Military service is obligatory for all men in Finland and the call-up applies to all 18-year-old men. At call-up, all men go through a medical examination in which they are given a diagnosis-based military fitness classification. About 75% of each annual age cohort carry out their service. At the medical check-up and at various stages during military or civil service, about 25% of the conscripts are excluded from service for various reasons, half of them on mental health grounds (Parkkola, 2010.) Previous studies have shown that many of them have various psychosocial problems and

are a target group for supportive interventions (Parkkola, 1999; Multimäki *et al*, 2005; Appelqvist-Schmidlechner *et al*, 2010a).

Information on the study and the support programme was given to all men attending the call-up in Helsinki and Vantaa by a member of the project team. Men living in the cities of Helsinki and Vantaa who were exempted from the service at call-up and men who failed to complete service during the period of July 2004 to June 2005 were personally invited to take part in the study. Altogether 516 men exempted from service received the invitation. Of these, 356 wanted to participate in the study and were given a baseline questionnaire. The participants were then randomly assigned either to an intervention group ($N = 182$) or to a control group ($N = 174$). Each man in the intervention group was invited to take part in the intervention, and a referral with contact information was sent to the personal counsellor providing the intervention. Of these 182 men, 12 could not be contacted by the counsellors for a variety of reasons, and they were excluded.

Intervention

The personal counsellors ($N = 19$) were professionals working in municipal social and health services, and they provided the manualised support programme (Stengård *et al*, 2008) as part of their basic duties. The counsellors were trained specifically for the intervention.

The Time Out! Getting Life Back on Track support programme is based on an interactional model for prevention (Upanne, 1999). In the interaction model, problems are seen to develop through interaction between people and circumstances in a cumulative process. They are not precipitated linearly by single causes, but can be seen as a result of a development process. In prevention, it is therefore essential to anticipate development and prevent the process from leading to problems by intervening in contributing factors and process events. Contributing factors are mostly seen to be psychological (individual) or social (environmental). Solution-focused counselling approaches were used. The focus was on solutions and the client's strengths and competences, instead of their problems, perceived deficits, weakness and limitations. The programme was based on four key principles:

- comprehensive support considering the developmental stage and tasks of the adolescent
- integration of preventative and promotive strategies
- client-orientated, tailored support
- avoiding stigmatisation when seeking help (Stengård *et al*, 2008).

These principles can be seen as key factors in effective preventive and promotive programmes for young people (Durlak & Wells, 1997; Catalano *et al*, 2002; Tylee & Walters, 2004; Hüsler *et al*, 2005).

The counsellors tried to contact the client within two weeks, mainly by telephone. The counsellors were given instructions to make as great an effort as possible to contact the client. Besides telephoning, they also used text messaging (SMS), e-mail and letters. The aim was to make an appointment during the first contact and to meet every man in the intervention group. As the programme was client-orientated, there was no need to set minimum standards for the required number of meetings. The intervention included the following phases: defining the present life situation, setting practical aims for the intervention, finding solutions and actions for concerns in question, promoting use of protective and empowering factors in the life of the young man, and making plans for the future. The counsellor also referred the client to other employment, social and health services as needed. The effectiveness of the programme was evaluated by means of a randomised controlled trial, which showed the programme to be effective (Appelqvist-Schmidlechner *et al*, 2010a).

Data collection

The data were collected through questionnaires and from official registers. Written informed consent was obtained from all participants. The respondents returned the questionnaires in sealed envelopes, ensuring that their answers did not affect the decisions made by military officials. The questionnaire responses did not affect the customary medical examinations at military call-up or when failing to complete service. It was also made quite clear that the counsellors providing the support programme would not have access to the research questionnaires.

Questionnaires were used to gather data from the counsellors about the client process evaluation. The questionnaires included structured as well as open-ended questions. The counsellors documented every contact with the client, as well as every contact attempt.

Register data were collected from several official registers. The Hospital Discharge Register collects information on all inpatient episodes in health care facilities. In this study, information on hospital treatment due to psychiatric disorder was collected (ICD-10: F00-F99). The Care Register for Social Welfare produces data on care and services in social care (institutional care, housing services and home care). In this study, the use of social care was due to treatment of substance abuse. The Child Welfare Register contains information on children placed outside the home. The diagnosis-based

military fitness classification was gathered using registers maintained by the Finnish Defence Forces.

Separate permissions to collect register data were sought from study participants. Altogether 144 men (85%) in the intervention group gave permission for data collection from registers. Different registers were combined by using respondents' unique personal identification numbers as the linkage key. The study protocol was approved by the ethics committee. Permits to use administrative register data were received from the National Institute for Health and Welfare.

Measurements

The following *socio-demographic characteristics* were gathered with the questionnaires: age, marital status (single, partnership), living conditions (alone, with parents/family, other, homeless), education (comprehensive school, upper secondary school) and employment (employed, student, not in employment or education).

Psychological distress was measured by the 12-item version of the General Health Questionnaire (GHQ-12). The scale is widely used and well validated in Finland (Holi *et al*, 2003; Pirkola *et al*, 2005a). The standard GHQ scoring method (0–0–1–1) was applied, counting only the last two responses as pathological (Goldberg & Williams, 1991). The summation of answers to all items yielded an individual sum score ranging from 0 to 12. The sum score was dichotomised, with a score > 3 considered to indicate psychological distress (Goldberg & Williams, 1991). The Cronbach's alpha coefficient of the scale was 0.914.

Alcohol-related problems were assessed using the Cutdown, Annoyed, Guilt, Eye-opener (CAGE) questionnaire (Ewing, 1984), which is one of the most widely studied self-report instruments used to screen for alcohol problems (Maisto *et al*, 1995). The measure included four questions:

- Have you ever felt the need to cut down on your drinking?
- Have you felt annoyed by criticism of your drinking?
- Do you feel guilty about your drinking?
- Have you ever had a drink in the morning to get rid of a hangover?

The responses were 1 = Yes and 0 = No. At least two Yes responses indicated that the respondent might have an alcohol problem. The Cronbach's alpha coefficient of this scale was 0.760.

Suicidal ideation was measured with the question 'Have you ever in your lifetime seriously thought of killing yourself?'. The answers were 'No, never', 'Yes, the last time

less than six months ago', 'Yes, the last time 6–12 months ago' and 'Yes, the last time more than 12 months ago'. The question was used in the Finnish Health 2000 survey (Pirkola *et al*, 2005a).

Childhood adversities were measured with a series of questions used earlier in the Finnish Health 2000 survey (Pirkola *et al*, 2005b; Kestilä *et al*, 2006). Respondents were instructed to choose 'No', 'Yes' or 'Cannot say' in questions dealing with various childhood adversities (*Table 1*, overleaf).

Accumulation of problems was measured in terms of a sum score, which included the following variables: psychological distress (GHQ-12 > 3), alcohol-related problems (CAGE > 1), unemployment, receiving supplementary benefits, homelessness and lack of social support. Lack of social support was assessed by four questions about the support received from other people (spouse, other relative, friend, colleague, neighbour, other person and nobody). Answering one or more questions with 'I receive support from nobody' categorised the respondent as lacking social support. The scale relating to social support was generated by Sarason and colleagues (1983) and has been used in the Finnish Health 2000 Survey (Nieminen *et al*, 2008). The sum score of accumulation of problems ranged from 0 to 6.

Statistical analyses

In this study, the criterion of full participation in the programme was met when the client had more than one contact with a counsellor. This definition was seen to be sufficient to represent adherence in this specific study group and intervention. To examine the characteristics of men participating in the programme, two study groups were differentiated:

- those who had more than one contact with a counsellor
- all other men in the intervention group.

Comparisons between the study groups were carried out using the *t*-test, the Mann-Whitney test or the Chi-square test where appropriate.

Five subgroups were established on the basis of the rate of adherence among men in the intervention group. Subgroups were compared with each other on the accumulation of current psychosocial problems. Comparisons between these groups were made using the Kruskal-Wallis test.

The significance level for all analyses was set at 0.05. The analyses were done with SPSS software (version 17.0).

TABLE 1 *Distribution of Background and Outcome Variables on Men Participating Fully in the Time Out! Getting Life Back on Track Support Programme and Other Men in the Intervention Group (N and %)*

Variables	Men participating fully in the programme (N = 52)		Other men in the intervention group (N = 118)		p
	N	%	N	%	
Exemption from service					
At call-up	25	48	60	51	.868
At failing to complete service	27	52	58	49	
Diagnosis for exemption from service (N = 144)					
Mental and behavioural disorders	33	67	40	42	.005
Somatic disorders	16	33	55	58	
Marital status					
Marriage or partnership	8	15	22	19	.668
Single	44	85	96	81	
Education					
Comprehensive school	27	53	69	59	.612
Upper secondary school	24	47	49	42	
Living					
Alone	11	22	24	21	.161
With family/parents	30	59	82	70	
Other	10	20	11	9	
Childhood adversities					
Financial difficulties of family	17	39	24	24	.108
Parental unemployment	11	22	24	22	1.000
Parental medical illness	7	14	18	17	.816
Paternal alcohol-related problems	10	20	25	23	.837
Maternal alcohol-related problems	3	6	14	12	.279
Paternal mental health problems	6	13	5	5	.092
Maternal mental health problems	6	13	6	5	.184
Family discord	17	38	22	22	.045
Parental divorce	25	49	46	40	.310
Serious illness	10	20	20	18	.830
Being bullied at school	26	53	39	35	.036
Current psychosocial problems					
Unemployed	15	29	17	15	.035
Homelessness	3	6	5	4	.701
Receiving supplementary benefits	13	26	19	16	.199
Alcohol-related problems (CAGE > 1)	20	39	35	30	.374
Psychological distress (GHQ-12 > 3)	30	63	45	41	.016
Lack of social support	7	14	17	14	1.000
Serious suicidal ideation					
No, never	30	58	87	76	.032¹
Yes, during the last 6 months	8	15	8	7	
Yes, during the last 6–12 months	4	8	5	4	
Yes, last time more than a year ago	10	19	15	13	
Register data (N = 144)					
Child maintenance and custody	4	8	10	11	.772
Hospital treatment for psychiatric disorder	8	16	10	11	.425
Treatment due to substance abuse	1	2	6	6	.423

Missing values are excluded in the percentage distributions.

¹ Variable was dichotomised (suicidal ideation in the past/no suicidal ideation) for the Chi-square test.

Results

Adherence

Of the 170 participants in the intervention group, the counsellors were able to reach 121 participants (71%). The counsellors met 85 participants (50%) and altogether 52

men (31%) were in contact with the counsellor after the first meeting. The intervention group was divided into five subgroups as follows.

Refused to participate in the programme

Altogether 28 men refused to participate in the programme after randomisation. Most of these men wanted to participate

in the study, but not in the support programme.

Could not be reached

The counsellors could not reach 21 men, in spite of extensive efforts. The counsellors made on average five fruitless attempts to contact the men (range 2–18 attempts).

Contacted but not met

Altogether 36 men were reached by phone but felt no need to meet the counsellor. Most of these men were not in need of support. There were also men in this group who did not appear at the first meeting, even if an appointment had been made. The counsellors were not able to reach these men afterwards either.

Met once

The counsellors met 33 men only once. According to the counsellors, the reason for terminating the programme after the first meeting was lack of need for support among most of these men.

Men fully participating in the programme

Altogether 52 men participated fully in the programme. The counsellors met the participants 1–15 times, most often twice (mean 3.6, s.d. 2.5). In addition to the meetings, the counsellors communicated with the men by phone. The support programme ran for an average of seven months (7–437 days, mean 208 days, s.d. 126.1). The most common topics during the counselling sessions were access to work and education, financial resources, housing and mental health.

Two men in three participating fully in the programme were exempted from service due to a mental or behavioural disorder ($p < .01$, *Table 1*). The most common grounds for exemption were neurotic, stress-related disorders ($N = 14$). Five men had mental and behavioural disorders due to substance use, five men had mood disorders, and five had adult personality and behaviour disorders. Two men had disorders of psychological development, one suffered from non-organic sleep disorders, and one from disturbance of activity and attention. Psychological distress ($p < .05$) and unemployment ($p < .05$) were common problems for the men participating fully in the programme. More than half of them had been bullied at school ($p < .05$) and 38% had suffered from family discord in childhood ($p < .05$). Almost half (42%) of the men participating fully in the programme had had serious suicidal ideation in the past.

There were no differences in age between men participating fully in the programme and other men in the intervention group. The average age of men participating in the study was 20 years (17–28, s.d. 2.44). No differences were found

in marital status, education, living arrangement or other specific social problems between the men participating fully in the programme and other men in the intervention group. Likewise, men participating fully in the programme did not differ from the others in the intervention group with regard to hospital treatment for psychiatric disorder, treatment for substance abuse, or child maintenance and custody (*Table 1*).

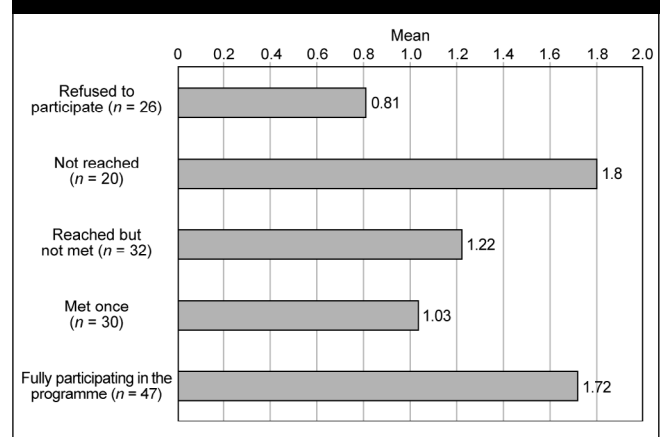
The subgroups differed from each other with regard to the accumulation of problems ($p < .05$). Men participating fully in the programme and men who could not be reached at all had the most accumulated problems (*Figure 1*, below). Men in the latter group had more commonly failed to complete military or civil service (86 % vs. 45 %, $p = .001$) and were more commonly less educated (81 % vs. 53 %, $p = .019$) than the other men in the intervention group.

Discussion

This study showed that most of the young men in the target group could be reached by the counsellors. In the Time Out! Getting Life Back on Track support programme, it was the counsellor and not the client who made the first contact, which runs counter to typical real-world situations.

Men participating fully in the support programme were commonly psychologically distressed and suffered from an accumulation of problems. A possible explanation for this result might be that the programme was able to reach particularly those who would not necessarily come to the attention of established mental health or social services. Only a minority of the men participating fully in the programme

FIGURE 1 Mean Sum Score of Accumulated Psychosocial Problems among Men in the Subgroups of the Intervention Group



The higher the score the more the accumulated problems.

Differences between the groups statistically significant ($p = .014$, Kruskal Wallis test).

Difference between men fully participating in the intervention group and other men in the intervention group statistically significant ($p = .019$, Mann-Whitney test).

N = 155 (data available for the sum score from 155 study participants).

had been clients of child or social welfare, or had had previous hospital treatment for psychiatric disorders. Fully participating men were possibly struggling with the new pressures and challenges of a transition phase into adulthood. Leaving the parental home, financial worries, and limited employment or educational opportunities can lead to high levels of stress. Among social problems, unemployment seemed to be a strong predictor for adherence.

The rate of full participation was relative low, considering that about half of the men were exempted from military or civil service due to mental or behavioural disorders and/or were found to be psychologically distressed as measured by the GHQ-12. There are several possible explanations for this result. Some of the men might have felt sufficiently supported by meeting the counsellor only once, or by having one telephone conversation with the counsellor; two men in three had at least one face-to-face contact or a telephone conversation with the counsellor. It also might be that some of these men needed more than just one meeting with the counsellor. Young men often under-estimate the need for outside help and attempt to deal with their problems on their own (Rule & Gandy, 1994). Similar difficulties with the gap between awareness of problems and help-seeking behaviour were documented in the study of Lennings *et al* (2006).

In this study full participation was defined by more than one contact with the counsellor. This definition was set because it was seen as a sufficient sign of adherence in this specific study group and intervention. The number of meetings was not seen to be that relevant, as the need for support varied a great deal between the clients. Some clients might need several meetings with the counselor, whereas other could be helped within one or two meetings. Young men in a transitional phase might also profit from prompt counselling, especially in the case of milder problems (Winzer & Bergsten Brucefors, 2007). The weakness of the definition was that it excluded clients who felt sufficiently supported by meeting the counsellor only once. However, as the aim of the first meeting was to define the present life situation and the client's need of support, meeting the counsellor only once was not seen as a sufficient sign of adherence.

This study does not confirm results from previous studies concerning age differences in help-seeking among young people (Ciarrochi *et al*, 2003; Oliver *et al*, 2005). Oliver and her colleagues (2005) found that people aged 25–34 years with common mental health problems are almost twice as likely to consult their general practitioner as those aged 16–24 years. In this study, age did not explain adherence to the support programme.

The men with the most problems could not be reached at all by the programme (12% in the sample). These men

had commonly failed to complete service and were less educated than the other men in the intervention group. This finding was in line with previous studies, according to which young people with the greatest problems and the fewest coping skills do not seek help (Carlton & Deane, 2000; Deane *et al*, 2001; Hüsler *et al*, 2005). Studies by Ciarrochi and colleagues have shown that adolescents who were low in emotional awareness, and who were poor at identifying, describing and managing their emotions, were the least likely to seek help from professional or non-professional sources and had the highest intention of refusing help from everyone. Moreover, if they sought help, they were the least likely to benefit from it (Ciarrochi & Deane, 2001; Ciarrochi *et al*, 2002, 2003.)

Help-seeking barriers can be found, for instance, in personal beliefs, perceived stigma or restrictive emotional openness and emotional skills (Davies *et al*, 2000; Chiarrochi *et al*, 2003; Nyamathi *et al*, 2007). It is possible, too, that previous unsatisfactory experiences with services deterred them from seeking help from professionals. On the other hand, non-compliance in interventions raises the question of the goodness of fit between client need and intervention provision (Stuart *et al*, 2008). It may be that these men would have needed support at an earlier stage of their lives, or other kinds of support. This raises the question of need for early interventions, for example in school settings.

The findings indicate that those men who could be reached by the counsellor but who refused to participate in the programme were not necessarily in need of support. Most of them were apparently young men who just did what was expected of them as a result of participation in the study.

Individuals who do not fully participate in an intervention present evaluators with a common methodological challenge. Non-compliance and high drop-out rates are an inherent problem, particularly for randomised controlled trials. If the proportion of those fully participating in the programme is relatively low, a large effect for them may be swamped by smaller (or no) effects for those who do not fully participate, leading to a small overall effect (Stuart *et al*, 2008). From the intervention provider's point of view, non-compliance is challenging, as maximal benefits from interventions cannot generally be achieved if individuals discontinue the intervention before completion. However, in interventions that provide psychosocial support, the need for support can vary a great deal in the target group.

The study has highlighted the importance of improving outreach to young men with several psychosocial problems. The study indicates that call-ups for compulsory military or civil service provide a unique opportunity to reach out to

young men to provide psychosocial support when needed. The school system could likewise provide similar possibilities for identifying and reaching out to young people in need of support. It could provide even better possibilities for reaching the particular group of young men who could not be reached at all in this study. Girls with similar problems could also be reached.

Limitations

Some methodological issues with regard to the study should be considered. First, data from the subjects were gathered through questionnaires. The results are subjective and may have been affected by social desirability, so the respondents may have under-estimated their alcohol use and diverse problems. Disqualification and failure to complete military or civil service can be associated with intense reactions, such as distress or relief, which can lead to bias in the reporting of general well-being. However, this barely influences the differences between the study groups.

Second, the sample was limited to a specific, at-risk group of Finnish young men in urban areas. The findings might not be generalisable to young women, rural areas or other countries. However, data on identified risk group can also be seen as a strong point of the study. Third, not all the men exempted from service could be reached, and about a third refused to participate in the study. Accordingly, some selection bias may have occurred. Fourth, the focus of this study was on personal factors of the client that might explain adherence. It is also possible that the qualities of the counsellors, the appeal of the programme, environmental factors or logistical issues contributed to the adherence pattern. However, all the men in the study group lived in the metropolitan area with relative similar environmental factors and logistical possibilities.

Despite the limitations noted, the study provides important data on adherence to psychosocial interventions. More research on this topic is needed. In future studies it would be fruitful to investigate the mechanism and processes underlying individuals' decisions to adhere or not to interventions. This kind of knowledge is needed if we are to enhance our ability to develop mechanisms and processes that increase outreach to young men and adherence to psychosocial interventions.

Conclusion

The Time Out! Getting Life Back on Track support programme reached out particularly to young men who had psychological distress and suffered from an accumulation of psychosocial

problems. However, the men with the most problems could not be reached at all. The study showed the complexity of adherence to psychosocial interventions. Young men who do not adhere to interventions are a heterogeneous group. The findings indicate that the need for support can vary a great deal – even within an identified risk group.

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Effects of a Psycho-Social Support Programme for Young Men – Randomised Trial of the Time Out! Getting Life Back on Track Programme

Key words: intervention; randomised trial; young men; psycho-social well-being; military service; prevention

Background

There has been major concern about the psycho-social well-being of young men in Finland (Sourander *et al*, 2004; Gissler *et al*, 2006; Karvonen, 2006). The recent tragic school shootings (Kauhajoki School of Hospitality in 2008 and Jokela High School in 2007) have greatly increased this

concern. Compared with young Finnish women, young Finnish men have been found to show greater levels of delinquency (Honkatukia & Savolainen, 2005; Gissler *et al*, 2006), alcohol misuse (Kestilä & Salasuo, 2007; Rimpelä *et al*, 2007), conduct disorders (Marttunen & Kaltiala-Heino, 2007) and completed suicide (Kumpula *et al*, 2006). These differences between the genders have been found to be relatively consistent across cultures (Crijnen *et al*, 1999). What is more, problems related to psycho-social development tend to accumulate over time (Rönkä & Pulkkinen, 1995;

A B S T R A C T

The purpose of this study was to examine whether the Time Out! Getting Life Back on Track support programme could influence the psycho-social well-being in an identified risk group of young men. A total of 356 young men exempted from military or civil service were randomly assigned to an intervention and a control group. Men in the intervention group (N = 182) were offered a personal counsellor. The data were collected using questionnaires, interviews and

register data. At one-year follow-up psychological distress had decreased in the intervention group more than among controls. The intervention had no impact on alcohol use, self-assessed quality of life, problem accumulation, self-confidence or contentment. The accumulation of problems poses a challenge for the development of interventions targeted at young people. Even small-scale support can have a positive impact on the general well-being of young men.

Deater-Deckard *et al*, 1998). Rönkä *et al* (2000, 2001) found that men are more likely than women to have cumulative problems, and the accumulated problems tend to continue from early adulthood to adulthood.

Young men with a wide range of psycho-social problems, in particular, are often beyond the reach of health and social services. Men are less likely than women to seek professional help for depression, substance abuse, physical disabilities and stressful life events (Padesky & Hammen, 1981; Thom, 1986; McKay *et al*, 1996; Biddle *et al*, 2004; Sourander *et al*, 2004; Tylee & Walters, 2004; Rickwood *et al*, 2005).

In a previous study (Appelqvist-Schmidlechner *et al*, 2010) we found that alcohol and drug abuse, psychiatric symptoms and suicidal thoughts were more common among men exempted from compulsory military or civil service than those conscripted into service. Military service is obligatory for all men in Finland, and the call-up to service applies to all 18-year-old men in Finland. At call-up, all men go through a medical examination, where they are given a diagnosis-based military fitness class. About 75% of each annual age cohort carry out their service. At the medical check-up and at various stages during military or civil service, altogether about 25% of conscripts are excluded from service for various reasons, half of them on mental health grounds (The Finnish Defence Forces, 2009).

According to Multimäki and colleagues (2005), temporary exemption from military service is particularly strongly associated with psycho-social problems. Men exempted from service are a risk group in which the prevalence of problems observed at call-up may remain unchanged or even increase (Parkkola, 1999; Multimäki *et al*, 2005). Similar findings have been reported in Sweden (Otto, 1973; Allebeck & Allgulander, 1990; Allgulander *et al*, 1992; Uppmark *et al*, 1999) and Norway (Sund, 1971). However, to our knowledge there has been no intervention to reach out to this risk group at call-up in any country.

Multimäki *et al* (2005) suggested that society should offer support to young men exempted from military or civil service through co-operation between the military forces and the social and health care system, and the effects of this form of intervention should be determined by a follow-up study. This study is part of the Time Out! Getting Life Back on Track project, which aimed to develop a psycho-social support programme for the prevention of exclusion among young men exempted from compulsory military or civil service in Finland. The aim of this study was to examine whether the programme could influence the psycho-social well-being of men in the target group. The main effects of the intervention were expected to be related to reduction of psychological distress, alcohol use and problem accumulation,

as well as to increasing self-assessed quality of life, self-confidence and contentment.

Method

Participants

The study group included men living in the cities of Helsinki and Vantaa who were exempted from service at the 2004 call-up, or who started their military or civil service between July 2004 and June 2005 but later interrupted it. Altogether 516 men were invited, and 356 participated in the study. The mean age of the sample was 20 years (s.d. 2.56, range 17–29). Written informed consent was obtained from all participants.

Study design and data collection

The data were collected through questionnaires and interviews and by gathering register data. The participants were given a baseline questionnaire at call-up or when interrupting military or civil service. The participants were then randomly assigned to either an intervention group ($N = 182$) or a control group ($N = 174$). Randomisation was carried out using the SAS software program by an assessor not involved in the support programme. Men in the intervention group were invited to join the support programme. Those in the control group were recommended to contact health and social services in case they had psycho-social problems and needed professional help.

The respondents returned the baseline questionnaires in sealed envelopes, which ensured that the answers did not affect the decisions made by military officials. The questionnaire responses did not affect the usual medical examinations at military call-up or when interrupting service. It was also made explicit that no counsellor in the support programme would have access to the research questionnaires.

A follow-up questionnaire was mailed to the respondents one year after the baseline questionnaire. A second reminder questionnaire was conducted for those who had not answered within two weeks. After this (within two weeks), the research assistant tried to contact the non-respondents by phone in order to motivate them to complete the questionnaire or to interview them over the phone.

Information on the diagnosis-based military fitness class of the participants was gathered from the registers of the Finnish Defence Forces.

Data concerning the client process evaluation were gathered by means of questionnaires from the counsellors of the programme at the beginning of the support programme,

after each counselling session and after the completion of the programme. After the completion of the support programme, the project assistant interviewed the programme participants over the phone. The study protocol was approved by the ethics committees of the participating institutions.

The study design is presented in **Figure 1**, below. The figure includes information on the experimental design and the size of the various sub-groups in each condition and at follow-up.

Intervention

Respondents in the intervention group were offered a personal counsellor. There were 19 counsellors providing the service, all professionals working in municipal social and health services and providing the manualised (Stengård *et al.*, 2008) support programme as part of their basic duties. The counsellors were trained specifically for the intervention. The training lasted three days and also included 11 group supervision sessions.

The Time Out! Getting Life Back on Track support programme is based on an interactional model for prevention (Upanne, 1999). In the interaction model, problems are seen to develop through an interaction between people and circumstances in a cumulative process. They are not precipitated linearly by single causes, but can be seen as a result of a development process. In prevention it is therefore essential to anticipate development and prevent the process leading to problems by intervening in contributing factors and process events. Contributing factors are mostly seen to be psychological (individual) or social (environmental). The programme was based on four key principles: comprehensive support considering the developmental stage and tasks of the adolescent, integration of preventive and promotive strategies, client-oriented tailored support, and avoiding stigmatisation when seeking help.

In the first meeting, the counsellors used a structured interview to discuss the current life situation of the young men, including topics such as housing, access to work and school, mental health, substance abuse and general well-being. The intervention included the following phases: defining the present life situation, setting practical aims for the intervention, finding solutions and actions for concerns in question, promoting the use of protective and empowering factors in the life of the young man, and making plans for the future. The counsellor also referred the client to other employment, social and health services as needed.

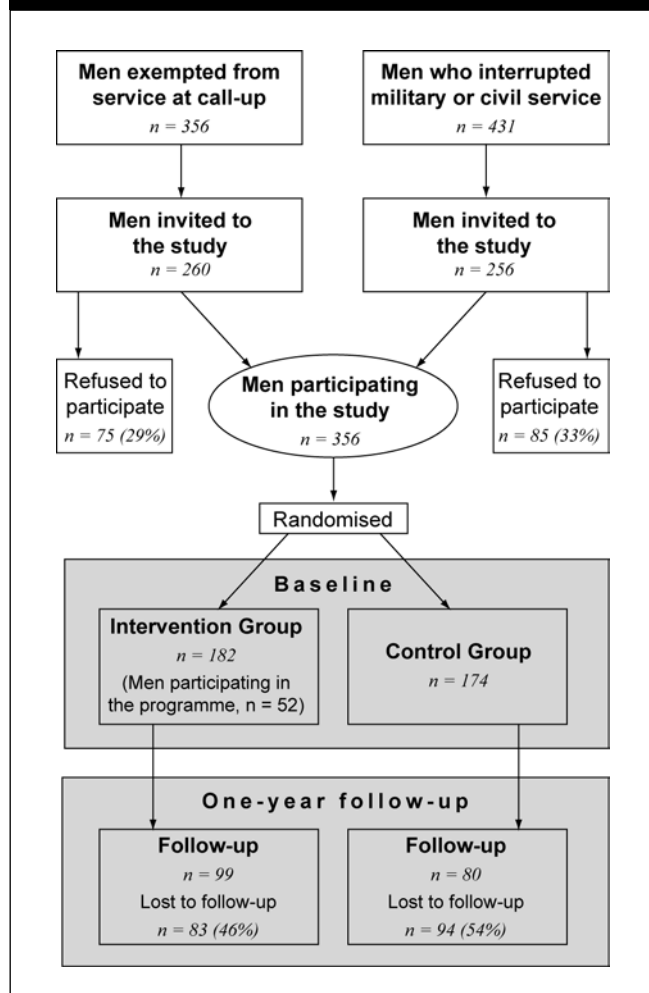
Measurements

The following socio-demographic characteristics were gathered with the questionnaires: age, marital status (single, partnership), living conditions (alone, with parents/family, other, homeless), education (comprehensive school, upper secondary school) and employment (employed, student, not in employment or education).

Psychological distress was measured by the 12-item version of the General Health Questionnaire (GHQ-12, Goldberg & Williams, 1991). The standard GHQ scoring method (0-0-1-1) was applied, counting only the last two responses as pathological (Goldberg & Williams, 1991). The summation of answers to all items yielded an individual sum score ranging from 0 to 12. A score of more than three was the cut-point for psychological distress, as in previous studies (Holi *et al.*, 2003; Koskinen *et al.*, 2005; Winzer & Bergsten-Brucefors, 2007). The Cronbach's alpha coefficient of the scale was 0.914.

Alcohol-related problems were assessed using the Cutdown, Annoyed, Guilt, Eye-opener (CAGE) questionnaire (Ewing, 1984). The CAGE questionnaire is one of the most widely

FIGURE 1 Study Design



studied self-report instrument to screen for alcohol problems (Maisto *et al*, 1995). The questionnaire included four questions:

- Have you ever felt the need to cut down on your drinking?
- Have you felt annoyed by criticism of your drinking?
- Do you feel guilty about your drinking?
- Have you ever had a drink in the morning to get rid of a hangover (an eye-opener)?

The responses were 1 = Yes and 0 = No. The summation of answers yielded an individual sum score ranging from 0 to 4. Two Yes responses indicated that the respondent might have alcohol problems. The Cronbach's alpha coefficient of this scale was 0.760.

Self-confidence and contentment were measured using a questionnaire developed by Pulkkinen (Pulkkinen & Rönkä, 1994). Five questions in this questionnaire were related to the self-confidence of the respondent, which included trust in one's own power and depicted a positive internal control over development. Two questions were related to contentment, consisting of satisfaction with present achievements without further developmental goals. The responses were 1 = strongly disagree, 2 = disagree, 3 = agree and 4 = strongly agree. The summation of answers yielded a score ranging from 5 to 20 for self-confidence and from 2 to 8 for contentment. The Cronbach's alpha coefficient for self-confidence was 0.768 and for contentment 0.765.

Quality of life was measured by a Finnish scale which has been used in the national health survey (Koskinen *et al*, 2005). It includes questions about satisfaction with human relations, financial situation, living conditions, future prospects and quality of life, as well as with oneself. Each item was measured with a five-point Likert scale (from 1 = very satisfied to 5 = very unsatisfied). The summation of answers yielded an individual sum score ranging from 6 to 30. The Cronbach's alpha coefficient of this scale was 0.753.

Accumulation of problems was measured in terms of a sum score, which included the following variables: psychological distress (GHQ-12 > 3), alcohol-related problems (CAGE > 1), unemployment, receiving supplementary benefits, homelessness and lack of social support. Lack of social support was assessed with four questions about the support received from other people. Answering one or more questions with 'I receive support from nobody' categorised the respondent as one lacking social support. The sum score ranged from 0 to 6.

Self-assessed effect of the intervention was measured with a telephone interview carried out within one month after completion of the support programme. The participants

were asked whether their life situation was better, worse or the same compared with the situation before being invited to the support programme. They were then asked whether or not this was because of the programme.

Randomisation, response rates and attrition

The control and the intervention groups did not differ significantly in age, marital status, education, employment, living conditions, education or diagnosis for exempting from service (**Table 1**, below). Similarly, there were no statistically significant differences at baseline in psychological distress, alcohol consumption, quality of life, accumulation of problems, self-confidence or contentment, so the integrity of randomisation to the experimental and the control condition was fully preserved.

Of the 182 participants in the intervention group, 28 refused to participate in the programme after randomisation. The counsellors were able to contact 121 participants (66%). The counsellors met 85 participants (47%) and altogether 52 men (29%) were in contact with the counsellor also after the first meeting.

The follow-up questionnaire was returned by 99 men in the intervention and by 80 men in the control group. The response rate of the follow-up was 54% in the intervention group and 46% in the control group. Non-respondents were

TABLE 1 Sample Description at Baseline: Socio-Demographic Variables

	Intervention group		Control group		
Variables	N	%	N	%	p
Marital status					
Marriage or partnership	31	17	27	16	n.s.
Single	151	83	147	84	
Education					
Comprehensive school	103	57	96	56	n.s.
Upper secondary school	78	43	77	44	
Employment					
Employed	61	34	69	37	n.s.
Student	77	43	71	42	
Not in employment/education	42	23	34	22	
Living					
Alone	36	20	26	15	n.s.
With family/parents	119	67	128	75	
Other	24	13	16	9	
Diagnosis for exemption from service					
Mental health	69	42	80	51	n.s.
Alcohol/drugs	17	10	17	11	
Somatic diagnosis	79	48	59	38	
Note: Missing values are excluded					

Note: Missing values are excluded

less satisfied with their current financial ($p < .05$) and life situation ($p < .05$). They were also more commonly employed (43% vs. 31%, $p < .05$) or not in employment or education (23% vs. 20%) than the participants, who were mostly students (34% vs. 49%).

Statistical analyses

Comparisons between the control and the intervention group were carried out using the t-test, the Mann-Whitney test or the Chi-square test where appropriate. The analyses were done with SPSS software (version 16.0).

The effects of the intervention were analysed with SAS (Release 9 Jan 2003). Differences in variable means were tested using the analysis of repeated measures with one grouping variable (PROC MIXED) (Crowder & Hand, 1990). This analysis also takes into account cases with missing values. The comparisons were made using intention-to-treat method. To prevent selection bias, the analyses were also based on the complete randomised intervention group, which included both participants and non-participants.

To assess a dose-response relation, three categories were formed: drop-outs in the intervention group, men in the intervention group who had contact with the counsellor only once, and men fully participating in the programme (in contact with the counsellor also after the first meeting). The

effectiveness of the programme was dichotomised for logistic regression analyses (1 = positive change during the follow-up, 0 = no change or negative change during the follow-up). The associations were quantified by calculating odds ratios (OR) and 95 confidence intervals (95 CI). The level of significance was set at 0.05.

Results

The counsellors met the participants 1–15 times, most often twice (mean 3.6, s.d. 2.5). In three cases in four, the counsellor met the client a maximum of three times. The support programme ran for an average of seven months (7–437 days, mean 208 days, s.d. 126.1). The most common topics during the counselling sessions were access to work and education, financial resources, housing and mental health.

After the one-year follow-up, psychological distress (GHQ-12) had decreased more among men in the intervention group than among men in the control group (*Table 2*, below). The intervention had no impact on young men's alcohol use, self-assessed quality of life, problem accumulation, self-confidence or contentment.

During the follow-up, psychological distress decreased by 55% among men in the intervention group and by 40% among men in the control group ($p = .08$). Of those fully participating in the programme, psychological distress fell

TABLE 2 Means and Standard Deviations (s.d.) of Outcome Variables at Baseline and Follow-up

Variables	Baseline			Follow-up			<i>p</i>
	<i>N</i>	mean	s.d.	<i>N</i>	mean	s.d.	
Psychological distress (GHQ-12)							
Intervention group	168	4.1	3.9	95	2.5	2.6	$p = .0479^*$
Control group	167	3.7	3.7	75	3.2	3.5	
Alcohol abuse (CAGE)							
Intervention group	179	1.3	1.5	99	1.2	1.4	n.s.
Control group	169	1.45	1.4	78	1.2	1.5	
Quality of life							
Intervention group	178	16.1	4.1	99	15.7	3.7	n.s.
Control group	172	15.7	3.9	80	15.3	4.5	
Self-esteem							
Intervention group	174	15.4	2.4	96	15.0	2.0	n.s.
Control group	166	15.1	2.3	77	15.1	2.6	
Satisfaction with oneself							
Intervention group	179	4.6	1.5	99	4.5	1.3	n.s.
Control group	168	4.5	1.3	77	4.6	1.4	
Accumulation of problems							
Intervention group	166	1.4	1.2	93	1.2	1.0	n.s.
Control group	163	1.3	1.2	72	1.0	1.1	

*Analysis of repeated measures (PROC MIXED), $F(215) = 3.96$

by 62% ($p < .05$ compared with the control group). Men fully participating in the programme tended to be more likely to get better than those in the intervention group who did not participate in the programme at all (*Table 3*, below), but the difference was not statistically significant.

Carrying out military or civil service at the time of responding had an impact on the results *Table 4*, overleaf). At baseline, men who had interrupted service were more commonly psychologically distressed than those who had responded at call-up. At follow-up, their psychological distress decreased clearly in both intervention and control group. However, the impact of the intervention was very clear among men participating in the study through call-up.

In the telephone interviews, 58% ($N = 40$) of the men participating fully in the programme reported that their life situation had improved thanks to the programme (*Figure 2*, below).

Discussion

The aim of the Time Out! Getting Life Back on Track support programme was to give clients an opportunity to work with a professional to clarify their current life situation and future plans. Clients were also referred to other social and health

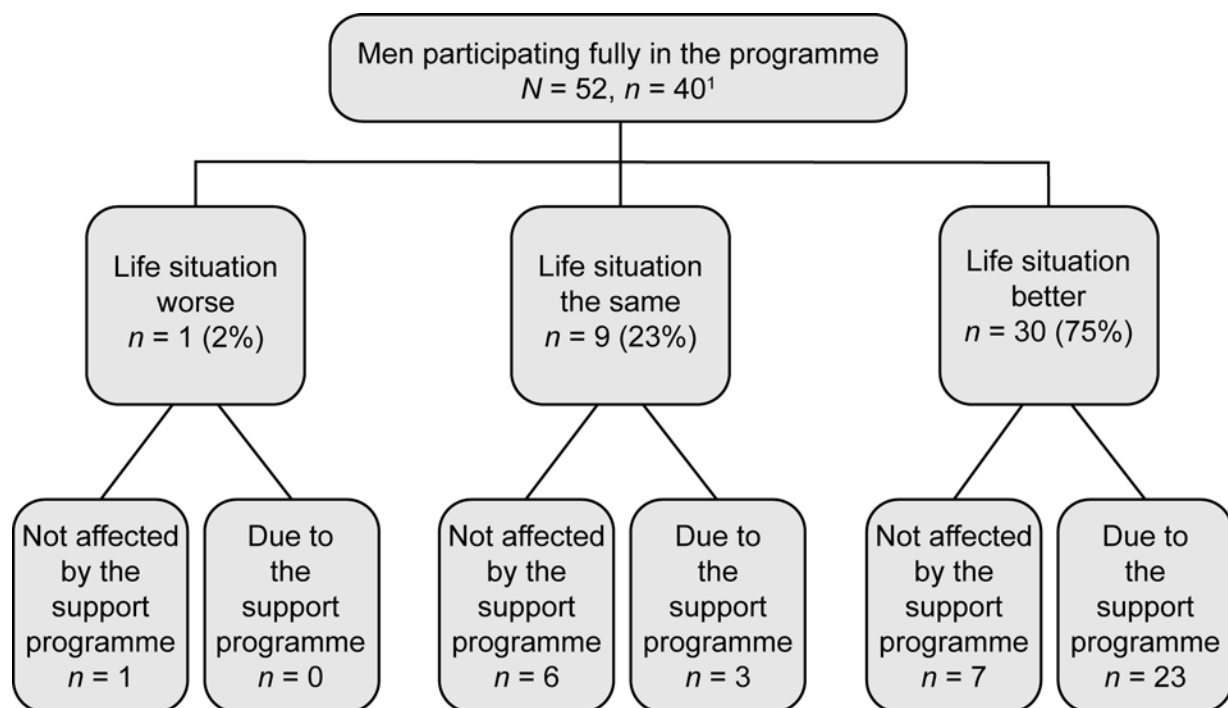
TABLE 3 Odds Ratios for Reduced Psychological Distress by Different Dose-Response of Intervention

Variable	N	Odds ratio (95% CI)
Drop-outs	30	1.0 (reference)
Counsellors in contact	29	1.40 (0.51–3.92)
Men fully participating	29	1.87 (0.66–5.28)

services if necessary. A successful intervention is expected to be reflected as a change in measures of psychological distress (Goldberg & Williams, 1991). In this study the intervention had an impact on young men's psycho-social well-being. During the follow-up, psychological distress as measured by GHQ-12 decreased more in the intervention group than in the control group, and the results of the telephone interviews suggested that the intervention had given insights and perspectives as regards current life situation and future plans. Young men in the target group are seemingly in a transitional phase. As a short-term intervention, counselling has been suggested as an effective method in milder forms of psychological disturbance in young people (Winzer & Bergsten-Brucefors, 2007).

The accumulation of problems poses a challenge for the

FIGURE 2 The Life Situation of Clients at the end of the Support Programme



¹52 men fully participated in the programme, 40 answered the questions needed for this figure

TABLE 4 Means and Standard Deviations (s.d.) of Psychological Distress (GHQ-12) at Baseline and Follow-up Among Men Participating in the Study through Interruption of Service and through Call-up

	Baseline			Follow-up			p
	N	mean	s.d.	N	mean	s.d.	
Intervention group							
Men interrupting service	84	4.9	4.0	40	2.7	3.1	
Men at call-up	84	3.4	3.8	55	2.3	2.2	
Control group							
Men interrupting service	81	4.9	3.8	33	2.7	3.3	n.s. ¹
Men at call-up	86	2.6	3.3	42	3.6	3.6	p < .004 ²

¹ Analysis of repeated measures (PROC MIXED)² Analysis of repeated measures (PROC MIXED) $F(124) = 8.50$

development of interventions targeted at young people. Most of the programmes and interventions for preventing problems and promoting a healthy and successful life are specific to one particular behaviour, such as depression (Merry *et al*, 2005), substance use (Tobler *et al*, 2000), aggression and anti-social behaviour (Wilson *et al*, 2003; Bor, 2004; Gansle, 2005). It is often the case, however, that the problems encountered in adolescence are the result of an interaction of several factors and cannot be determined by one factor alone. Multiple positive and negative behaviours are highly correlated and predictive of each other (Durlak, 1998; Degenhardt & Hall, 2001; Griffin *et al*, 2001; Flay, 2002). Flay (2002) has pointed out, that because all adolescent behaviours are inter-related, future prevention and health promotion programmes should address all adolescent behavioural development in a comprehensive and coherent way. The Time Out! Getting Life Back on Track! support programme provided young men with comprehensive support. It may be that the benefits are most likely to be seen in reduction of psychological distress.

The effects of current military or civil service were confounding factors in the study. When analysing the effects of current service (baseline at call-up vs. at interruption of service), intervention affected psychological distress only among men who, at baseline, had not yet entered military or civil service. Interrupting service apparently causes so much psychological distress that it confounds the results to some extent. Psychological distress measured at the time of interrupting the service is undoubtedly high, and the distress can maybe be reduced simply by leaving the service.

No significant effects were found in terms of other outcome variables, that is, alcohol use, problem accumulation, quality of life, self-confidence and contentment. While previous similar studies have indicated it to be feasible (Durlak & Wells, 1997; Greenberg *et al*, 2001), this study did not reveal any multi-dimensional effects of the intervention.

The lack of effects in terms of other outcome variables may be due to some limitations of the study. The response rate was low in spite of one reminder questionnaire and great effort by the research assistant to contact the non-respondents by phone. It is a well-known problem of surveys that young men with a wide range of psycho-social problems, in particular, are reluctant to respond (Pietilä *et al*, 1995; Mattila *et al*, 2007). The relatively high proportion of non-response data and drop-outs creates a degree of bias and makes detecting effectiveness more difficult.

Another common challenge encountered in preventive programmes (Clarke *et al*, 1993) and experimental evaluations (Stuart *et al*, 2008) is that individuals do not participate fully in intervention. If the proportion of those fully participating in the intervention is relatively low, a large effect for them may be swamped by smaller (or no) effects for those who do not fully participate, leading to a small overall effect. Nevertheless, the analyses were based on the intention-to-treat method. Odds ratios showed a certain trend of the effect for different sub-groups of participation. The trend seemed to be that the more men participated in the intervention, the larger was the effect on psychological distress. However, this finding did not reach statistical significance. Future studies could make use of more advanced statistical methods, for example the CACE-approach (Stuart *et al*, 2008). Another limiting factor may be that the controls were also referred to health and social services, if necessary. This may have led to a smaller effect.

It may be that the intervention was not sufficiently specific to produce a detectable effect in alcohol use measured with CAGE, for instance. Most of the measures used in this study (GHQ-12 and CAGE) have been used previously in screening large samples of adolescents in Finland (Pirkola *et al*, 2005; Kestilä *et al*, 2007). Nevertheless, their sensitivity in measuring change in follow-up studies is not well known.

A further limitation of the study was the nature of the

sample. The sample was limited to a specific, at-risk group of Finnish young men, so it is difficult to say whether the findings on the effectiveness of the programme are transferable to young women, for instance.

The potential limitations notwithstanding, the study also had some notable strengths. First, the study was conducted using a randomised study design. Although a number of research designs can be used to determine the effectiveness of a prevention programme, the randomised controlled trial (RCT) is widely considered the most scientifically rigorous one. Given the possibility that even well-intentioned prevention and promotion programmes might in some cases exacerbate poor outcomes (Shaffer *et al*, 1990; Harrington & Clark, 1998; MacIntyre & Petticrew, 2000), there is a responsibility to use strategies that have been thoroughly tested and proven to work and not to harm the participants. In this study, the integrity of randomisation to the experimental and the control condition was fully preserved and the analysis was based on the intention-to-treat approach.

Another strength of the study was the use of multi-faceted indicators of well-being, including many aspects of the lives of young adults. According to Perry and Jessor (1985), effective family-, school- and community-based preventive interventions have the potential to affect four different but inter-related domains of health: psychological health (subjective sense of well-being), social health (role fulfilment and social effectiveness), personal health (realisation of individual potential) and physical health (physical-physiological functioning). It is therefore important to evaluate the effectiveness of early interventions with more than one construct or a single diagnosable mental disorder.

The aim of further work should be to determinate the effective components of the support programme. It would be necessary to investigate the intervention process through methodological triangulation, combining both quantitative and qualitative methods. Effective components could be found in the key principles of the support programme: comprehensive support, integration of preventive and promotive strategies, client-oriented tailored support, and avoiding stigmatisation when seeking help. In existing studies and literature, these are often suggested to be the key factors of effective preventive and promotive programmes for adolescents (Durlak & Wells, 1997; Greenberg *et al*, 2001, 2003; Catalano *et al*, 2002, 2004; Flay, 2002; Biddle *et al*, 2004; Rickwood *et al*, 2005). It is also important to consider the developmental stage and tasks of the adolescent (Hodgson *et al*, 1996; Hüsler *et al*, 2005; O'Connell *et al*, 2009). Dryfoos has (1990) suggested, for example, that enhancement of early education and prevention of school failure should be given high priority, not only by those who want to lower the drop-out rate, but also by those

interested in preventing substance abuse and conduct disorders.

Adolescence is a period of life with the potential to prevent both current impairment and future illness, as well as to promote successful development into productive adulthood. Social exclusion or problems in the psycho-social well-being of adolescents can be very costly to families, communities, and the health and social system as a whole. Prevention and promotion programmes should be seen as an investment for the future. There is substantial evidence that health promotion and prevention programmes can produce lasting behavioural benefits for young people (Jané-Llopis, 2002) and be cost-effective (Zechmeister *et al*, 2008; Foster *et al*, 2007). However, it may take considerable time before research convincingly resolves whether such improvements will actually reduce the incidence of mental disorders, for instance. A longer-term follow-up would be informative in evaluating whether the programme effects are constant and whether the programme can promote positive long-term development for the participating men. Additional research is also needed on how to promote effective implementation of the programme (O'Connell *et al*, 2009).

The Time Out! Getting Life Back on Track support programme is a comprehensive intervention programme for young men which integrates promotive and preventive strategies. Military call-up offers an excellent opportunity to reach young men as a cohort in Finland. This opportunity has not previously been actively made use of in preventing psycho-social problems or the process of psycho-social exclusion. In 2009, the programme was offered to 18,000 men (more than half the cohort) attending the call-up by 280 trained counsellors in about 100 municipalities in Finland. The programme is currently being piloted in several school settings as well.

The findings on programme effectiveness, feasibility and acceptability are encouraging for interventionists and providers interested in adolescent well-being. Even small-scale support can have a positive impact on the well-being of adolescents. And, once identified, effective model programmes can serve as examples to be repeated in other settings (Price *et al*, 1989), for example in schools.

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