

Petri Koivisto

Preparing for working life:

Effects of group counseling on adolescents' career development and mental health



Finnish Institute of
Occupational Health

People and Work
Research Reports 92

People and Work

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Layout Mari Pakarinen / Juvenes Print
Cover Picture Patti Gray
ISBN 978-952-261-016-4 (paperback)
978-952-261-017-1 (PDF)
ISSN-L 1237-6183
ISSN 1237-6183

Press Tampereen Yliopistopaino Oy – Juvenes Print, Tampere 2010

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ABSTRACT

The present dissertation has two main aims. The first aim was to examine the effects of two preventive group counseling methods on adolescents' career development and mental health. These methods apply the theories of the importance of an active and supportive learning environment in strengthening participant's preparedness to deal with career choice and the school-to-work transition. The second aim was to examine the mediating role of career preparedness in career development and counseling. Two randomly assigned effectiveness trials were carried out. The first field trial (N=416) examined the effectiveness of the School-to-Work intervention method and the mediating role of employment preparedness in attempts to improve the transition to working life and to prevent mental health problems associated with failed transitions among 17–24-year-old vocational school graduates. The second field trial (N=1034) examined the effectiveness of the Towards Working Life intervention in attempts to enhance preparedness to make an educational choice and to improve the transition to post-basic education among 15- to 16-year-old ninth graders. Both trials included a one-week workshop program that focused on enhancing career preparedness, i.e. preparation to career choice or employment, as a proximal goal. In these trials, students were randomized into a control and an experimental group. Participants were assessed at baseline, immediately after the intervention, and during "post-transitional" phases, ten or twelve months later, when most of the participants were either working or continuing studies.

The results of the first trial showed that the School-to-Work intervention increased participants' employment and correspondence between their employment, vocational education and career plans at the ten-month follow-up. The absolute gain in employment achieved by the intervention was evaluated to be approximately 6.3% in this study.

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This would mean an increase of approximately 27% in the proportion of employment that would have been achieved without the intervention. In addition, the intervention increased participants' construction of personal goals related to work life, finances and property at the same time point. The group method also had a preventive impact on depressive symptoms and psychological distress at the ten-month follow-up among those initially at risk for mental disorders. Analysis of the meditating variables showed that the intervention increased graduates' employment preparedness at the post-treatment assessment, which in turn increased their employment ten months later. Furthermore, employment increased the construction of working life-related personal goals and lower financial strain, which in turn was associated with lower depressive symptoms at the ten-month follow-up. In conclusion, the results of the study support the assumption that the transition from vocational school to work can be promoted with methods strengthening students' employment preparedness as a proximal goal.

The results of the second trial showed that the Towards Working Life group intervention had interaction effects with baseline risk for depression and learning difficulties on symptoms of depression and school burnout. Among those initially at risk for depression, the intervention decreased symptoms of depression. For students who were at risk for depression and had learning difficulties, the intervention decreased school burnout. The results also showed that the intervention directly improved students' career choice preparedness, which in turn fostered career planning task values.

In general, the effects of the experimented interventions on career development and on mental health were small but significant. Consequently, a more cost-effective approach than targeting a whole age group, would be the design of intensive workshop format career interventions as selective primary prevention programs. The selective programs would be targeted at those in greatest need of support, particularly those who experience the aims of the intervention practices as relevant in their current life situation and exhibit deficient career preparedness, and who have learning difficulties or mental well-being problems. Implications for practice and future research are discussed.

Key words: career choice, career planning task values, field experiment, preparedness, school-to-work transition, self-efficacy

TIIVISTELMÄ

Tällä väitöskirjalla oli kaksi tavoitetta. Ensimmäisenä tavoitteena oli tutkia kahden ennaltaehkäisevän ryhmänohjausmenetelmän vaikutuksia nuorten urakehitykseen ja mielenterveyteen. Näissä ohjausmenetelmissä sovelletaan aktiivisen oppimisen ja tukevan oppimisympäristön periaatteita, kun tuetaan nuoria heidän valitessaan koulutusta ja siirtyessään työelämään. Toisena tavoitteena oli tutkia, kuinka ohjauksessa vahvistunut valmistautuneisuus vaikuttaa urakehitykseen ja mielenterveyteen.

Tutkimuksessa toteutettiin kaksi satunnaistettua kenttäkoetta. Ensimmäisellä kokeella (N = 416) arvioitiin, kuinka Koulutuksesta työhön -ryhmämenetelmä vaikuttaa 17–24-vuotiaiden nuorten ammatillisista opinnoista työelämään siirtymiseen ja mielenterveyteen ja kuinka työllistymisvalmius vaikuttaa välittävänä tekijänä. Toisella kokeella (N = 1 034) arvioitiin Kohti työelämää -menetelmän vaikutusta 15–16-vuotiaiden nuorten uravalintavalmiuteen ja toisen asteen opintoihin siirtymiseen. Molempiin kokeisiin sisältyi yhden viikon aikana toteutettu intensiivinen, ryhmämuotoinen uraohjaus, jonka välittömänä tavoitteena pyrittiin vahvistamaan valmistautuneisuutta uravalintaan tai työllistymiseen. Osallistujat satunnaistettiin koe- ja kontrolliryhmiin. Molemmissa kokeissa nuoret vastasivat kyselylomakkeeseen ennen interventiota, välittömästi sen päätyttyä ja kymmenen kuukauden tai vuoden kuluttua, kun he olivat siirtyneet toisen asteen opintoihin tai työmarkkinoille.

Tulokset osoittivat, että Koulutuksesta työhön -ryhmään osallistuminen lisäsi nuorten työllistymistä. Ryhmään osallistuneiden työ vastasi koulutusta ja henkilökohtaisia urasuunnitelmia paremmin kuin ryhmään osallistumattomien työ. Tässä kokeessa työllistymisen absoluuttiseksi lisäykseksi arvioitiin 6,3 %. Tämä merkitsisi noin 27 % lisäystä siihen työllistymisasteeseen, joka saavutettiin ilman uraohjausinterventiota.

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Lisäksi ryhmämenetelmä lisäsi nuorten työelämään, talouteen ja omaisuuteen kohdistuneiden tavoitteiden asettamista. Kymmenen kuukauden seurannan perusteella ryhmämenetelmä myös ehkäisi nuorten depressio-oireita ja psyykkistä rasittuneisuutta niiden keskuudessa, jotka luokiteltiin ennen interventiota psyykkisen häiriön riskiryhmään. Välittävien tekijöiden analyysi osoitti, että interventio vahvisti välittömästi työllistymisvalmiutta, millä oli työllistävä vaikutus kymmenen kuukauden seurannassa. Työllistyminen puolestaan lisäsi työelämään kohdistuvien henkilökohtaisten tavoitteiden asettamista. Lisäksi työstä saatu palkka vähensi taloudellisia huolia ja ehkäisi depressio-oireita. Tutkimustulokset tukivat oletusta, jonka mukaan ammatillisista opinnoista työelämään siirtymistä voidaan edistää toimenpiteillä, jotka vahvistavat välittömästi osallistujien työllistymisvalmiutta.

Toisen kokeen tulokset osoittivat, että Kohti työelämää -ryhmiin osallistuminen ehkäisi depressio-oireita ja koulu-uupumusta nuorilla, jotka ilmoittivat depressio-oireita ja oppimisvaikeuksia ennen interventiota. Ensinnäkin, ryhmämenetelmä ehkäisi depressio-oireita niillä, jotka ilmoittivat depressio-oireita, eli luokiteltiin depression riskiryhmään ennen interventiota. Toiseksi, ryhmämenetelmä ehkäisi niiden nuorten koulu-uupumusta, jotka ilmoittivat sekä depressio-oireita että oppimisvaikeuksia ennen interventiota. Tulokset osoittivat ryhmiin osallistumisen vahvistaneen nuorten valmiuksia uravalintaan, minkä ansioista interventio lisäsi urasuunnittelun arvostusta.

Yhteenvedona voidaan todeta, että ryhmämenetelmien vaikutukset olivat pieniä mutta tilastollisesti merkitseviä. Tulosten perusteella voidaan päätellä, että olisi kustannustehokkaampaa kehittää kokeiluja ohjausmenetelmiä edelleen, niin että niistä hyötyvien tarpeet otettaisiin paremmin huomioon ja kohdistettaisiin toimenpiteet koko ikäluokan sijasta vain näihin kohderyhmiin. Tällaiset selektiiviset ennalta ehkäisevät menetelmät tulisi kohdistaa niille, jotka tarvitsevat eniten tukea, kokevat toimenpiteet mielekkäiksi ja elämäntilanteeseensa sopivaksi, ja joilla on heikot uravalmiudet, oppimisvaikeuksista tai muita suurempi riski mielenterveyden ongelmiin.

Avainsanat: ammatinvalinta, tehtäväärvostukset, kenttäkoe, valmistautuneisuus, koulutuksesta työhön siirtyminen, pystyvyys

ACKNOWLEDGEMENTS

This dissertation is a result of the two research and development projects I have been involved in for almost eleven years in the Finnish Institute of Occupational Health. Nearly four years of this time I worked in these projects as an employee of the University of Jyväskylä. The aim of the first project, which I joined in 2000, was to develop and evaluate the School-to-Work group counseling intervention developed for the use of secondary level vocational schools in Finland. The second project, with the aim of developing and evaluating the Towards Working Life group counseling intervention for the use of Finnish comprehensive schools, started in 2002. The development and research work done in these projects involved close co-operation with Pori College (a secondary-level vocational school in Pori and Ulvila), comprehensive schools and labor offices in Pori and Hyvinkää, the University of Jyväskylä, and Michigan Prevention Research Center in the University of Michigan. From the viewpoint of my own vocational development, it has been an invaluable experience to have been able to participate in development work on group methods, planning and conducting field experiments, collecting and analyzing data sets, and finally writing research reports and this dissertation. Many persons have contributed to the success of this process.

I wish to express my deep gratitude to the reviewers of this dissertation, Professor Emeritus Fred Vondracek, from Penn State University, and Professor Hannu Savolainen from the University of Eastern Finland, for their constructive comments. I am also grateful to Professor Jari-Erik Nurmi, Professor Katariina Salmela-Aro, Research professor Jukka Vuori, and Docent Sanna Vehviläinen for their comments, which have significantly improved this dissertation. In addition, I wish to thank Michael Freeman for taking care of the language of this dissertation.

I am grateful to Jussi Silvonen for his in-depth introduction to the preventive group intervention framework that was developed in the

ACKNOWLEDGEMENTS

University of Michigan and programmatically applied in the effectiveness studies reported in this dissertation. I want to thank Jukka Vuori for guidance in conducting field experiments and planning original publications. I express my warmest thanks to the co-authors of the original publications of this dissertation: Markku Jokisaari, Pertti Mutanen, Elina Nykyri, Katariina Salmela-Aro, Amiram Vinokur and Jukka Vuori. My special thanks go to Professor Amiram Vinokur for his personal guidance in the construction of the structural equation models used in this dissertation.

Next, I would like to thank Juhani Pirttiniemi and his colleagues at the Finnish National Board of Education for all the support they gave to the development work on the group counseling methods that are evaluated in this dissertation. I wish to extend my warm thanks to Markku Jokisaari, Tommy Larvi, Merja Mäkitalo, Katariina Salmela-Aro, Jussi Silvonen, Sanna Sutela and Jukka Vuori for their respective contributions to this development work. In addition, I wish to express my gratitude to the school headmasters and teachers, school counselors and labor office personnel who participated in the work of the projects in Pori and Hyvinkää. In particular, Esko Seppälä and Sari Vivolin, thank you for your hard work in ensuring the successful accomplishment of the field experiments in the schools.

I am grateful to many persons at the Finnish Institute of Occupational Health and University of Jyväskylä. I warmly thank all my co-workers, especially Markku Jokisaari and Tommy Larvi, for many constructive discussions. I thank Heli Paalamo and Heidi Ristolainen for their careful handling of the research data, and Jari-Erik Nurmi and Raija Mehto for taking care of many “practical matters” in my doctoral studies. I also want to thank Virve Mertanen for working with the manuscript in order to publish it.

Finally, I am thankful to my father and mother for their support and encouragement. I am also grateful to my friends, especially Santtu Merjanaho, Sanna Vehviläinen and Valentina Oroza for all the joy they brought during these, at times, highly intensive projects.

This research was financially supported by the Academy of Finland (7201822, 7207421, 1210319, 124294), Ella and Georg Ehrnrooth Foundation, Finnish Cultural Foundation, and Finnish Graduate School of Psychology.

Helsinki, Kallio, November 2010
Petri Koivisto

LIST OF PUBLICATIONS

The review is based on the following five original publications. The publications are referred to in the text with Roman numerals (I–V). The original articles have been re-published in this report with the permission of Elsevier (I, III, IV), John Wiley and Sons (II), and National Career Development Association (NCDA)(V).

- I Koivisto, P., Vuori, J. & Nykyri, E. (2007). Effects of the School-to-Work Group Method among young people. *Journal of Vocational Behavior*, 70, 277–296.
- II Koivisto, P., Vuori, J., & Vinokur, A. D. (2010). Transition to work: Effects of preparedness and goal construction on employment and depressive symptoms. *Journal of Research on Adolescence*, 20, 869–892.
- III Vuori, J., Koivisto, P., Mutanen, P., Salmela-Aro, K., & Jokisaari, M. (2008). Towards Working Life: Effects of an intervention on mental health and transition to post-basic education. *Journal of Vocational Behavior*, 72, 67–80.
- IV Vuori, J., Koivisto, P., Mutanen, P., Salmela-Aro, K., & Jokisaari, M. (2009). Corrigendum to “Towards Working Life: Effects of an intervention on mental health and transition to post-basic education” [*Journal of Vocational Behavior* 72 (2008) 67–80], *Journal of Vocational Behavior*, 75, 237–238.
- V Koivisto, P., Vinokur, A. D., & Vuori, J. (in press). Effects of a career choice intervention on components of career preparation. *Career Development Quarterly*.

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1. INTRODUCTION

It has been suggested that compared to industrial societies, present-day knowledge-based societies provide their members with greater readiness and resources for coping with current vocational development tasks and critical transitions (Arnold, 1997; Fouad & Bynner, 2008; Savickas, 2005). Although the young people of today are better educated than earlier generations, they face greater challenges in the area of career development (e.g. Bynner, 1998; Fouad & Bynner, 2008; Gangl, 2002; Quintini, Martin, & Martin, 2007). In most OECD countries young people's careers are often characterized by spells of unemployment, part-time or temporary work, or work below their qualifications. Although there are large differences in the average length of school-to-work transition across countries, as well as in occupations and levels of education, the common trend in many countries in recent years has been the length of time – 1 to 2 or more years – that it takes to find one's first job after completing education, and the much longer time it takes to find a permanent job (Quintini et al., 2007). Success in managing school-to-school and school-to-work transitions is important for young people's futures because it has long-term effects on their career development and life management (OECD, 1998; Scherer, 2004). In contrast, less successful transitions mean drop out from educational pathways, longer periods in so called NEET positions (not in employment, education or training) or in jobs that do not correspond with the young employee's educational qualifications. These problems in career development not only affect future life course but also mental health (for reviews, see Hinkelman & Luzzo, 2007; Paul & Moser, 2006, 2009).

In Finland, where the studies included in the present dissertation were carried out, among the most important transitions are those from comprehensive school to secondary education and from secondary

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vocational education to the labor market. The dissertation comprises of five experimental effectiveness studies aiming at clarify the effects of two group counseling practices on career development and mental health during these transitions. Career theories of vocational psychology constitute the framework of the present dissertation. These theories can be divided into career development theories and career counseling theories (Swanson & Fouad, 2010; also Kidd, 2006). Career development theories explain vocational behavior, such as choosing, preparing for, entering, adjusting to, or progressing in one's occupation, and related subjective experiences. Counseling theories focus on building a base for psychological interventions aiming at improving students', job-seekers' and workers' career development, career satisfaction and well-being. Next, I give an overview of career development from adolescence to young adulthood and how this development is related to mental health. After that, I summarize the goals and outcomes of career counseling and present the group career counseling framework of the study. Finally, I discuss the aims of the experimental effectiveness studies in more detail.

1.1 Career development in adolescence and early adulthood

1.1.1 What is career development?

The concept of career development evokes the term “career”. In vocational psychology the term has at least two noteworthy aspects (Arnold, 1997; Savickas, 2002, 2005). First, the objective core aspect of “career” can be defined as a sequence of publicly observable and definable employment-related positions, roles, experiences and activities encountered by a person. The term does not include any connotations of status or hierarchical progression up within an organization or profession. Accordingly, everybody who participates in working life or job search has a career. To a certain extent, career can also include roles played in positions other than the purely occupational, e.g. in leisure time, job search or education, but only when they relate to employment. For example, positions during the latter part of the educational career play an important role in preparation for working life and thus are typically included in the concept of career.

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Second, the subjective aspect of career is essential for the psychological conceptualization of career. This aspect brings cognitive, emotional, and behavioral processes as well as the construction of personal meaning and narratives into the concept of career. The subjective aspect enables us to think of a career as a reflexive personal project.

Although the term career is strongly tied to working life, its development originates in early childhood and continues as an ongoing and continual process throughout the school and working years until retirement (Super, 1953, 1980). For example, the socioeconomic status of one's family of origin is a major determinant of educational attainment (Mortimer, Staff, & Oesterle, 2004). While, in turn, the adequacy with which an individual plays the preoccupational roles as a pupil, student, part-time worker and "career explorer" is one determinant of the quality of his or her occupational entry position. And, finally, the type of first occupational position after schooling and performance in it is one determinant of later career progress and satisfaction. The life span theorists, Super (1953, 1984, 1990) and Savickas (2002, 2005), have stressed that career development is essentially development and implementation of vocational self-concepts (for a review, see Hartung & Subich, 2010). According to this idea individuals construct a picture of their personal attributes, such as abilities, interests and needs, which they consider relevant to their work roles, and try to make that picture a reality. Moreover, Super and Savickas have proposed that the degree of career satisfaction depends on the degree to which the individual finds adequate outlets for his or her abilities, interests and needs in the work environment. Individuals produce this match or congruence between vocational self concept and environment partly as a result of syntheses and compromises. The matching process plays a central part in career development and does not complete because people's self-concepts, vocational preferences and situations in which they live, study and work change over time.

1.1.2 Exploration stage: Developmental tasks, transitions, and coping responses

Super (1953) applied the concepts of life stages (Bühler, 1935) in his preliminary life span approach to career development. He called the

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period typically starting around the age of 14 and continuing through the adolescent until young adult years the exploration stage. Next, Super (Super, 1957; Super et al. 1957) took the concept of developmental tasks (Havighurst, 1953) and subdivided the exploration stage into three periods which he marked with vocational developmental tasks. Super (1957, 1990, Super et al., 1957; for a review, see Savickas, 2001) labeled these tasks crystallizing vocational preferences, specifying vocational choice and implementing a vocational choice. These tasks capture culturally determined and stage-specific role expectations and norms which adolescents encounter, interpret and internalize in personal ways, mostly as self-set goals and challenges. Societies' educational institutions structure young peoples' life course by offering a timetable for their career development-related role transitions and expectations (Peterson, Sampson, Lenz, & Reardon, 2002; Super, 1980). Major career decisions related to vocational development tasks must be made at the time of institutionalized decision points, which occur before and during the school-to-school and school-to-work transitions (Super, 1980). Vocational psychologists have explained adolescents' readiness to translate developmental tasks into adequate coping responses with variety of competencies and related attitude and personal efficacy variables (Crites, 1978; Eccles, Vida, & Barber, 2004; Lent, Brown, & Hackett, 1994; Super, 1974). Finally, the mastery of developmental tasks and transitions is constituted by the interaction of environmental factors and individual coping responses.

Making a career choice

The first two developmental tasks of the exploration stage – crystallizing vocational preferences and specifying a choice – focus on vocational choice-making (Super, 1957, 1963, 1990; Super et al., 1957; Super, Savickas, & Super, 1996; for a review, see Savickas, 2001). Crystallization denotes a process that includes the broad exploration and formation of tentative vocational preferences whereas specifying a choice denotes a commitment to enter or try out a particular vocation. Super (1974) divided career choice-related coping skills into informational and decision making competencies. Awareness of the choices to be made motivates adolescents to explore vocational self-concepts, such as interests, personal abilities and values, as well as environmental information about

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educational and occupational careers. Decision making competence refers to an individual's skills at matching personal interest, ability and value structures to corresponding educational and occupational careers. Crites (1978) formulated a more detailed model and sub-divided career choice competencies into five factors: (a) self-knowledge, (b) occupational information, (c) goal selection, (d) planning, and (e) problem-solving. According to Savickas (1999), career developmental theories view "awareness of the choices to be made and information and planning that bear on these choices" as the main predictors of successful career choices and smooth transitions from school to work.

In this dissertation the sense of personal efficacy in career choice-related tasks is defined as career choice preparedness. Career choice preparedness refers to the readiness to take advantage of opportunities, and the readiness to deal with barriers and setbacks in the domain of career choice (see Sweeny, Carroll, & Shepperd, 2006; Vuori & Vinokur, 2005). In the present study, I operationalized career choice preparedness as a combination of two measures: career choice self-efficacy, and inoculation against set-backs. The concept of career choice self-efficacy used in this study refers to the degree of confidence in one's ability to successfully engage in tasks related to career choice. Career development theorists have generally accepted that self-efficacy beliefs play a critical role in the translating career choice competences into action (e.g., Lent et al., 1994; Taylor & Betz, 1983). Inoculation against setbacks refers to anticipatory stress management skills, which help individuals maintain active, goal-directed behavior and well-being when facing barriers or setbacks (Meichenbaum, 1985, 2007), and resembles the concepts of coping efficacy (Albert & Luzzo, 1999), barrier coping efficacy (Lent, Brown, Schmidt et al., 2003), problem-solving efficacy (Taylor & Betz, 1983) and motivational resilience (Eccles, Vida, & Barber, 2004).

In the expectancy-value approach, attitude toward specific task behavior has been understood as the sum of the expected values of the attributes ascribed to the behavior (Eagly & Chaiken, 1993). Modern social cognitive theories describe evaluations of these attributes in terms of outcome expectations, interests (Lent et al., 1994), and task values (Eccles & Wigifield, 1995, 2002). In the present dissertation, I have focused on what Eccles and her colleagues referred to as attainment value and utility value (Eccles & Wigifield, 1995, 2002) in their expectancy-value

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model of achievement-related choices. Attainment value refers to how important it is to an adolescents' sense of self to do well in career planning-related tasks, e.g. educational and vocational choices or the attainment of planned education. Utility value refers to the usefulness of the activity to their personal future goals or plans, e.g. a person's belief that engagement in career planning activities and future education increases his or her possibilities of gaining a high quality job and a satisfying work career. A person's evaluations of the outcomes of planned behavior have been seen as crucial determinants of attitudes toward transforming career intentions, plans, and goals into concrete behavioral strategies (Ajzen, 1988, 1991; Lent, Brown, & Hackett, 1994, 1996; Lent, Hackett, & Brown, 1999).

Finally, Lent and his colleagues proposed a social cognitive career theory (SCCT) that incorporates the contribution of self-efficacy and outcome expectations, into career goal construction and career development (Lent, 2005; Lent et al, 1994, 1996, 1999). An integrative framework to the key constructs of the dissertation and those of the social cognitive career theory is presented in Figure 1 p. 19. The concept of self-efficacy (Bandura, 1977) in the Lent et al. model includes a dimension that focuses on coping with barriers and is thus conceptually similar to the preparedness construct. Outcome expectations denote beliefs about the consequences of performing particular behaviors. The concepts of outcome expectations in the Lent et al. model correspond to the constructs of utility and attainment values, which are incorporated in the construct of career planning task values (Eccles & Wigfield, 1995, 2002, see also Arbona, 2000). However, unlike the original model by Lent and his colleagues, the integrative framework of this dissertation stresses developmental progression through the mastery of career developmental tasks and role transitions.

Researchers have documented a range of social cognitive career theory-driven (Lent et al., 1994) associations between the key variables of the career choice process. First, career choice-related self-efficacy beliefs have been shown to positively associate with vocational intentions (Fouad & Smith, 1996), career exploration (Creed, Patton, & Prideaux, 2007; Gushue, Scanlan, Pantzer, & Clarke, 2006), actual career-related choices and performance (Betz & Hackett, 1981; Lent, Lopez, & Bieschke, 1993), and career persistence (Lent, Brown, & Larkin, 1984). Low self-efficacy has been shown to be linked with career indecision (Betz &

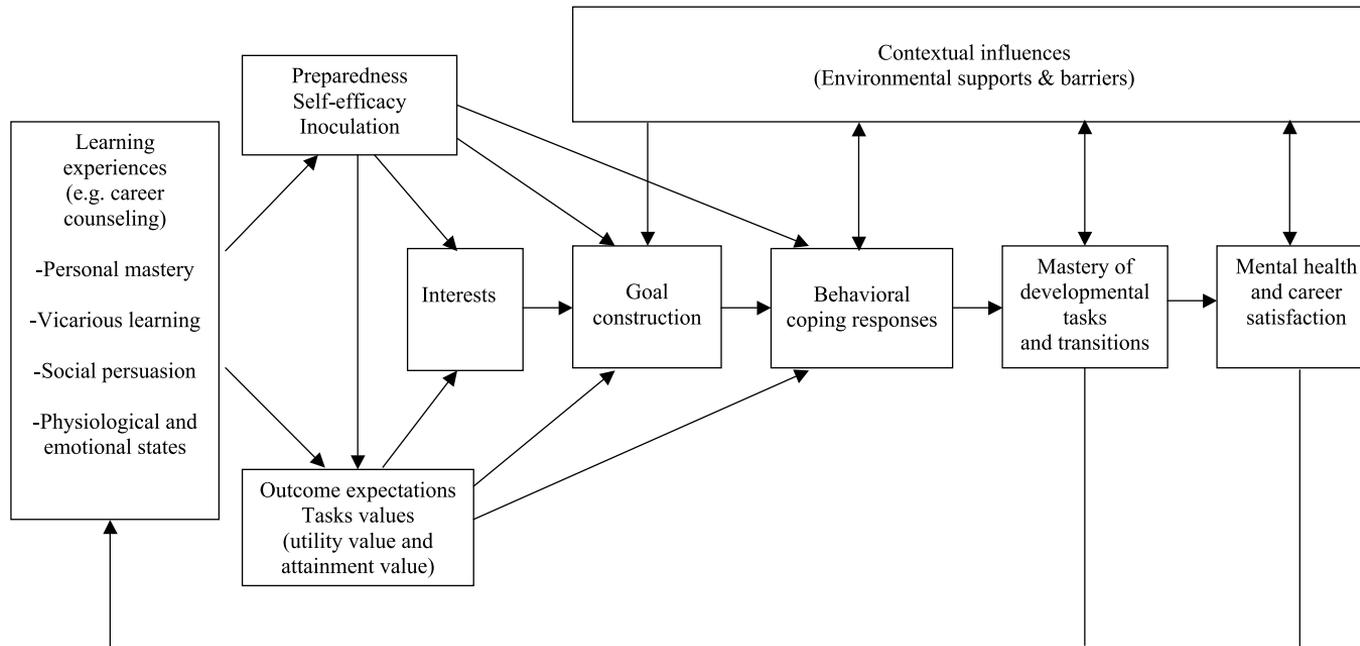


Figure 1. An integrative framework to the key constructs of the dissertation and social cognitive career theory (adapted from Lent, 2005; Lent & Brown, 2008; Lent, et al., 1999).

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Voyten, 1997; Lopez & Ann-Yi, 2006; Taylor & Betz, 1983) and fear of commitment (Wolfe & Betz, 2004). In addition, career self-efficacy has proved to be associated with attitudinal variables, such as career decision-making attitudes (Luzzo, 1993), vocational outcome expectations, and interest (Lent et al., 2003; Turner & Lapan, 2002). Outcome expectations and interest, in turn, have been shown to complement self-efficacy in the prediction of educational (Lent et al., 1993) and vocational intentions (Fouad & Smith, 1996) and educational choice goals (Lent et al. 2005). Finally, Germeijs and Verschueren (2007) found that high school students' abilities to cope with career decisional tasks predict their subsequent academic commitment and adjustment in higher education, which in turn is associated with successful academic achievement.

Implementing a career choice

After specifying a career choice the adolescent encounters the third and final task of the exploration stage that is, implementing a choice (Savickas, 2001, 2002; Super, 1957, 1963, 1990; Super et al., 1957, 1996). Adolescents and young adults seek implementation for their vocational choice through vocational education, training and employment. The type of implementation process and its timing in the life-span vary across educational systems and the specification level of educational pathways (see Kersckhoff, 2003). For example, among the Finnish adolescents who choose secondary level vocational education, the process of implementation focuses on the early educational choices and transitions. In contrast, among those who follow less vocationally specified pathways and navigate to the labor market through upper secondary and university studies, the role of post-secondary educational choices and the school-to-work transition is emphasized. In the end, regardless of the final educational pathway, a high degree of congruence between vocational self-concepts and employment is an important criterion for a successful implementation process. Consequently, appropriate coping behaviours in implementation phase are constituted by a variety of effective job-search strategies, e.g. searching for information about potential job opportunities through different sources, making connections with employers and presenting one's own strengths and abilities successfully in the job interview (Caplan, Vinokur, & Price, 1997; Price & Vinokur, 1995; for a review see Saks, 2005).

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It has been argued that personal goals, especially career-related goals, play an important role in the implementation of vocational choice during the transition to working life (Nurmi & Salmela-Aro, 2002; Nurmi, Salmela-Aro, & Koivisto, 2002) (see Figure 1 p. 19). First, school leavers are prompted to select their personal goals, envision the environment for attaining those goals, and decide on their future life path. For example, Finns who leave secondary level vocational education must decide whether to enter the labor market or continue on the educational pathway at tertiary level. At this decision-making point those who are more prepared for and self-confident in implementing vocational choice may be more willing to invest motivational resources in the attainment of work-life goals compared to others (e.g. employing effective job-search strategies in order to find a job corresponding to their education, career plans and personal needs). Second, as an outcome of their goal construction and efforts to actively choose a direction for their lives, school leavers end up in different developmental environments, social positions and roles (e.g. full-time worker, unemployed or under-employed job-seeker or student). These outcomes continue to influence their goal construction and appraisals in the future. Thus, in accordance with a major proposition of developmental-contextualism (Vondracek, Lerner, & Schulenberg, 1986), bidirectional links between individual development and the changing social context are incorporated in the integrative framework of this dissertation (see Figure 1 p. 19).

Several studies have been carried out previously on the role of work-related personal goals in the transition to working life. However the prime target in all of these previous studies has been young adults rather than adolescents. Nurmi and his colleagues (2002) found that appraising work-related goals as important and under personal control was associated with finding a job that corresponded with one's education. They also demonstrated that work-life goal-related social ties contribute to employment success (Jokisaari & Nurmi, 2005). Moreover, those who found work corresponded with education in the first year after leaving school appraised their work-life goals later as increasingly achievable and arousing positive emotions (Nurmi et al., 2002). In contrast, those who had problems in finding or retaining employment appraised their work-life goals as less important (Nurmi et al., 2002) and, as a compensatory strategy, turned to the construction of goals focusing on other life domains (Nurmi & Salmela-Aro, 2002). In addition to goal-directed

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behaviour, these results also stressed implementation of vocational choice as an important success criterion in the transition to working life.

In the present dissertation vocational school leavers' sense of personal efficacy in implementing a vocational choice is described by the concept of employment preparedness. The concept of employment preparedness builds on previous analyses of the JOBS and Työhön interventions (Vuori & Vinokur, 2005). Employment preparedness is a goal state of readiness to respond to uncertain outcomes in the domains of job search and the subsequent organizational entry process (see also Sweeny et al., 2006). Thus, employment preparedness consists of employment self-efficacy: that is, developing the skills and confidence necessary to acquire a job and to perform successfully in that job. It also provides training in inoculation against setbacks by preparing students for barriers and setbacks in job search as well as for barriers that may emerge when they are already working. More specifically, perceived self-efficacy refers to personal appraisal of one's capacity to implement the actions required to acquire and maintain goal-congruent employment (Bandura, 1977, 1986, 2006).

1.1.3 Transition to establishment stage

Mastering the tasks of the career exploration stage creates a foundation for coping with the tasks of the next stage that is career establishment (Crites, 1976; Savickas, 2002; Super, 1957, 1963, 1990; Super et al., 1957, 1996). For example, the length of the unemployment period after full-time education predicts the likelihood of becoming employed in later years (Steijn, Need, & Gesthuizen, 2006). It is common that the transition from the exploration to establishment stage does not progress directly but through a trial period. During the trial period, an individual tries to find a congruent and stable occupational position by trying one or more jobs before settling down. For, example, new graduates can often easily find full-time low-skilled jobs but are often compelled to accept only a part-time or temporary job in order to implement their vocational choice in today's highly competitive labor market situation. Attaining any kind of job, including temporary or part-time job, after school is associated with an increased likelihood of being employed in latter years (OECD, 1998). However, life span theorists (Savickas, 2002; Super, 1990; Super et al., 1996) have traditionally viewed congruent

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employment as an important antecedent of work satisfaction, life satisfaction and transition to establishment stage. For example, Brasher and Chen (1999) found that employment which did not correspond with education was associated with low job satisfaction, low starting salary and high intent to quit among workers who were recently graduated from university. Finally, Sherer (2004) found that taking poor quality employment, which does not correspond to a person's level of education, straight after graduation, makes it harder later to create a career which matches a person's educational level.

After finding a congruent job the young employee starts to invest effort into establishing the chosen career and advancing in it (Crites, 1976, 1982; Dix & Savickas, 1995; Savickas, 2002; Super, 1953, 1990; Super et al. 1957). From the inner life perspective, the goal of the establishment years is implementation of the vocational self-concepts in working life. According to Super (1957, 1990; Super et al. 1957) and Savickas (2002) the establishment stage includes three developmental tasks. The first of them is stabilizing in a job. Mastery of the task requires the achievement of a satisfactory performance level in job-related assignments and adaptation to the organization's culture. In other words, a newcomer tries to confirm his or her career choice by actual work experience. The second task, consolidating one's position in an organization, requires good relations with one's co-workers and maintaining productive work habits and attitudes. A worker may end the establishment stage by mastering the second task. Another worker may think that he or she does not want to stay in the same position for the rest of his or her career and engages in exploration to master the third task that is, advancing in a career. This denotes next move towards a more congruent position within the organization or in another organization and completes the establishment stage.

In addition to the life-span approach, the challenges of career establishment have also been conceptualized in the literature of organizational socialization (for reviews, see Feij, 1998, 2003; Saks & Ashforth, 1997). Socialization researchers broadly agree on that a newcomer faces the following four learning tasks: task mastery (mastering job assignments), role clarification (clarifying one's role in the organization), acculturation (adjusting to the organizational culture) and social integration (developing relationships with co-workers). They have also suggested

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that effective behavioural responses to these tasks can be described as proactive strategies, comprising, e.g., information and feedback seeking, relationship building and goal setting, which may enhance career development, organizational commitment and increase the fit between the individual and the work environment (Feij, Whitely, Peiro, & Taris, 1995; Kammeyer-Mueller & Wanberg, 2003).

The exploration and establishment stages together constitute a process of vocational identity formation during which adolescents and young adults develop increasingly stable vocational self concepts and translate them into public occupational roles and relatively stable positions. On the one hand, the career development approach emphasizes developmental continuity in time, which is manifested in progressive coping behaviors resulting in the accumulation of task mastery experiences throughout the life span (Super, 1982, 1985; Super et al. 1996) (see Figure 1 p. 19). Accordingly, many authors have argued that social cognitive research on the predictors of successful coping in development tasks of career exploration and establishment should be used as a foundation for the planning of career interventions (Lent et al. 1999; Saks, 2005).

On the other hand, many theorists share the view that career development is shaped by the complex interplay between individuals' behavioral repertoires, and the enabling, supporting and constraining forces of their social context (Lent et al., 1994; Savickas, 2002; Super, 1953, 1980). Due to continual change in individual (e.g. interests) and contextual factors (e.g. economic trend and technological development), Vondracek, Lerner and Shulenberg (1986) have pointed out that progression of career development is probabilistic rather than deterministic in nature, and thus not always linear and predictable. In other words, a notable amount of back and forth movements between the different tasks and stages as well as progression without task-specific coping behaviors occur. However, skipping the exploration stage can result in difficulties, such as dropping out of vocational education and a return to exploration at the later stage. Accordingly, Super (1982) proposed that mastering vocational development tasks in a pre-existing stage is a precursor to but not a prerequisite for mastering tasks in a subsequent stage. Previous longitudinal studies have shown that, in accordance with Super's principle of progressive mastery, there exist weak but significant association between mastery of developmental tasks in exploration and subsequent establishment stage (Jepsen &

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Dickson, 2003). From the career counseling perspective, this means that effects of effective career counseling on long-term career development are expected to be small but significant.

Finally, developmental-contextualists (Vondracek et al., 1986) have contended that age-graded stages and tasks are not an appropriate way to conceptualize career development in the adult years. However, according to a “more flexible” interpretation of the life-stage approach developmental tasks of exploration and establishment stages can be understood as career concerns which people may encounter at whatever age (Arnold, 1997; Savickas, 2005; Super, 1990; Super et al., 1996). Thus, the life-stage approach may improve identification of common career concerns and functional coping responses which help practitioners in developing career interventions.

1.2 Career development and mental health

Mental health can be defined as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2004, p. 12). It has been estimated that one person in every four develops a mental disorder at some stage of his or her life (WHO, 2001). Previous studies have also shown that most mental disorders, such as depression, begin during adolescence (Hankin et al., 1998; for review see Patel, Fisher, Hetric & McGorry, 2007). Patel et al. estimated that at least one out of every four or five adolescents will suffer from a mental disorder in any given year. Kaltiala-Heino and her colleagues found that 17.2% of 14- to 16-year-old Finnish adolescents suffer from at least mild depressive symptoms (Kaltiala-Heino, Rimpelä, Rantanen, & Laippla, 2001).

According to Salmela-Aro, Kiuru, Pietikäinen and Jokela (2008) 10–15% of the same age group suffer from symptoms of school burnout. School burnout is an extension of the concept of work-related burnout and reflects the amount of psychological distress which adolescents experience in connection with school work. School burnout comprises three dimensions: exhaustion due to school demands, cynical and detached attitude towards school work, and feelings of inadequacy as a student. Salmela-Aro, Savolainen and Holopainen (2009) found evidence in

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support of the hypothesis that school burnout and depressive symptoms produce cumulative cycles in which school burnout more strongly influences subsequent depressive symptoms than vice versa.

Mental health and career development are intertwined in complex ways. For example, elevated depressive symptoms in adolescents have found to be associated with poor coping behaviours and strategies (Rohne, Lewinsohn, Tilson, & Seeley, 1990), poor school attainment (Gjerde, Block, & Block, 1988), poor career preparation (Skorikov, 2006), career indecision and dysfunctional career thoughts (Saunders, Peterson, Sampson, & Reardon, 2000). Psychological distress may exacerbate problems in young peoples' career development, e.g. in school achievement, which, in turn, may lead to more serious mental health and vocational issues culminating in drop out from education, unsatisfying employment or unemployment, and psychiatric syndromes (Hinkelman & Luzzo, 2007; Kokko, Pulkkinen, & Puustinen, 2000; Wiesner, Vondracek, Capaldi, & Porfeli, 2003). Conversely, negative career developmental factors, such as educational problems, learning disorders, failures in school achievement or employment, have been shown to be important risk factors for poor mental health (for reviews, see Patel et al., 2007; Paul & Moser, 2006, 2009; WHO, 2004). Hence the integrative framework of this study highlights reciprocal causality between career development and mental health (see Figure 1 p. 19).

The strongest evidence for the reciprocal causality between career development and mental health comes from the body of research on unemployment. Several meta-analyses have demonstrated that unemployment has broad negative effects on mental health, manifested, e.g. as increasing symptoms of distress, depression, and anxiety, as well as impaired well-being and self-esteem (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Murpy & Athanasou, 1999; Paul & Moser, 2009). In support of the causation hypothesis, i.e. unemployment causes mental health problems, losing a job is associated with deterioration in mental health, and re-employment after a period of unemployment is associated with improvement in mental health. Paul and Moser (2009) concluded that, on average: 1) the transition from school to work is associated with a strong improvement in mental health; 2) the transition from school to school is associated with a weak but significant improvement in mental health; 3) the transition from school to unemployment is associated with

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an insignificant decrease in mental health. In support of the selection hypothesis, i.e. mental health problems cause unemployment, workers or school leavers with impaired mental health are more likely to become unemployed. However, the average size of the causation effect is found to be medium, which is larger than the average weak size of the selection effect (Paul & Moser, 2009).

The consequences of unemployment may be different for adolescents and young adults than for older people. On the one hand, young unemployed people do not usually have family-related or financial responsibilities and can easily return to school and continue living with their parents. Thus, compared to older workers, unemployment may be less psychologically distressing for young people. On the other hand, because of their minor work experience, young school leavers are under pressure to implement their vocational choice and establish a career and vocational identity. This pressure seems to produce an extra burden for young unemployed or underemployed people, and may manifest itself in diminished mental health or, at least, cause them to miss out on the mental health benefits of congruent employment (McKee-Ryan et al., 2005). In the field of unemployment research, the congruence hypothesis is understood to mean that the level of congruence or incongruence between one's personal goals, needs, values and one's current employment situation explains the effects of unemployment or employment on mental health (Paul & Moser, 2009). In support of the hypothesis, the effects of employment problems on mental health have been found to be harmful, particularly when combined with financial problems and strong commitment to work and related personal goals and values (DeGoede, Spruijt, Iedema, & Meeus, 1999; Nurmi & Salmela-Aro, 2002; Paul & Moser, 2006; Prause & Dooley, 1997).

1.3 Career counseling

1.3.1 Definition

Career counseling can be defined as “the process of assisting individuals in the development of a life-career with focus on the definition of the worker role and how that role interacts with other life roles” (National

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Career Development Association, 1997, p. 1). Forms of career counseling vary from individual to group counseling but they always include intensive face-to-face interaction between counselor and client or participant (Kidd, 2006; Swanson, 1995; Swanson & Fouad, 2010). The concept of career counseling is closely related to the concepts of psychotherapy and career guidance. There is clear overlap in career counseling and psychotherapy but they are not identical processes. In both cases, the process is psychological in nature and based on practices derived from psychological theories (Heppner & Heppner, 2003; Swanson, 1995). However, the most obvious difference is that, unlike therapy, career counseling emphasizes work- or career-related concerns (Blustein & Spengler, 1995). Finally, career guidance is a broad concept which includes career counseling but also a wide array of other types of interventions and activities that are not psychological or do not require the counselor's presence, as in the case of many career information services and computer-based practices.

1.3.2 Goals and outcomes

From the perspective of career development, a major goal of career counseling among adolescents is to help them to master their vocational development tasks and transitions (see Figure 1 p. 19). Super (1984, p. 230) stated that "it is the function of career development counseling to help students...to anticipate career development tasks, to plan how to cope with them, and evaluate the outcomes of coping for planning the next actions". It is also widely agreed that individuals' readiness to translate these tasks to adequate coping responses develops through social learning (Lent et al., 1994; Mitchell & Krumboltz, 1990; Super, 1990). Accordingly, social cognitive theorists have stressed that adolescents' career development can be improved by school-based interventions in which counselors and teachers facilitate the learning of effective coping strategies by making the most of the sources of efficacy information (e.g. Lent et al., 1999; Prideaux, Patton, & Creed, 2002). The most influential source of self-efficacy is the adolescent's personal mastering experiences. In addition, self-efficacy is influenced by vicarious learning (role modeling), social persuasion (e.g. verbal encouragement) and physiological and emotional states (e.g. mood). Finally, boosting self-efficacy beliefs has

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recently become a frequently used proximal goal in career interventions (for reviews, see Betz, 2007; Gainor, 2006).

Career counseling outcomes denote changes that occur directly or indirectly as a result of intervention (Hepner & Hepner, 2003; Swanson, 1995). Outcome measures of effectiveness studies should be derived from the hypothesized proximal and distal goals of the intervention in question (Whiston, 2001). Thus, the timescale of outcome measures is considered to be extremely important (Kidd & Killeen, 1992; Maguire, 2004; Whiston, 2001). Immediate outcome measures, also referred to as micro-outcome or learning outcome measures, are applied to examine how effective a particular career counseling practice is in attaining its' proximal goals. For example, it has been shown that interventions which are based on the four sources of efficacy information are highly effective in boosting career self-efficacy beliefs (for reviews, see Betz, 2007; Gainor, 2006). In addition to self efficacy, social cognitive theories consider attitudinal factors, such as task values (Eccles & Wigifield, 1995), outcome expectancies, and interests (Lent et al., 1994), to be proximal goals of career interventions. Several meta-analytic investigations conducted since the 1980s have shown that career choice interventions have generally had beneficial effects on short-term levels of career exploration-related outcomes, such as career information seeking, career maturity and career options (Brown & Ryan Krane, 2000; Oliver & Spokane 1988; Spokane & Oliver, 1983; Whiston, Brecheisen, & Stephens, 2003; Whiston, Sexton, & Lasoff, 1998). However, to the best of the present author's knowledge, direct and indirect (through self-efficacy) effects of career choice interventions on career planning attitude-related factors, such as task-values, have not been previously examined in randomized experimental studies.

Long-term outcome measures, also referred to as macro outcome and ultimate outcome measures, assess the attainment of distal goals of the intervention (Maguire, 2004; Watts, 1999; Whiston, 2001). Long-term outcomes can be measured at the individual (e.g. goal-congruent employment), organizational (e.g. school effectiveness), and societal level (e.g. economical benefits), all of which represent the true benefit of career counseling. At the individual level, the main distal goal of career counseling in adolescence is progression in mastery of the developmental tasks of the exploration stage. In addition, it is suggested that career counseling should help graduating young people to anticipate

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establishment-related developmental tasks and barriers (Dix & Savickas, 1995; Krumboltz & Worthington, 1999; Savickas, 1999). For example, depending on the developmental phase of the participants and the distal goals of the intervention, the long-term follow up assessment should be targeted at drop-out from educational pathways, the implementation of goal-congruent educational and vocational choices, person-vocation fit, and career satisfaction.

Moreover, the hypothesized mediating roles of the immediate outcomes, such as employment preparedness, on the long-term effects of the intervention should also be examined. Killeen et al. (1992) and Maguire (2004) concluded that if the mediating pathways can be shown in few strong randomized experiments with long-term follow-up, then the immediate learning outcomes could be regarded as proxies for the long-term outcomes. Nevertheless, according to the career intervention literature, long-term follow-ups as well as the examination of mediating processes are very rare, and thus very little is known about the real benefits of career counseling. The long-term effects and mediating pathways have been examined so far only in studies on job-search programs among unemployed adults (Vinokur, Schul, Vuori, & Price, 2000; Vuori & Silvonon, 2005; Vuori & Vinokur, 2005).

Mental health outcomes

In consequence of the growing evidence on the relationship between employment and mental health, Herr (1989, p. 13) concluded: "If one considers work and mental health to be linked, and career counseling to be an effective process in helping persons choose work wisely and improve their adjustment to it, then, logic would argue for career counseling to be a useful process in the service of improved mental health, where questions of work satisfaction and purpose are involved." Moreover, because psychological distress may hinder adolescents' vocational development and students who seek career counseling often express a need to address mental health issues, Hinkelman and Luzzo (2007, p. 145) contended the following: "it is imperative that counselors and psychologists who provide services to diverse college student populations consider the interaction of mental health and vocational issues when developing a treatment plan and selecting intervention strategies." However, despite the wide agreement

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among theorists that career counselors must integrate goals of psychological adjustment into their practices, mental health outcomes has been largely neglected in studies on career choice interventions. For example, Whiston et al. (2003) reviewed 51 randomized experimental studies comprising a total of 736 assessments of outcomes but found only 11 assessments of anxiety and not a single assessment of depressive symptoms.

Previous intervention research has shown that promotion of mental health and prevention of mental disorders can be applied successfully to career counseling among adult unemployed job seekers (e.g. Caplan et al., 1997; Vinokur et al., 2000; Vuori & Silvonen, 2005). The distal goal of promotion is to enhance positive mental health and quality of life, whereas prevention focuses on avoiding mental health problems (e.g. WHO, 2002). Developmental approach to mental health promotion views major life stages and related life changes as stressful events and focuses on strengthening individuals' ability to deal with stage-related developmental tasks (Hodgson, Abbasi, & Clarkson, 1996) (see Figure 1 p. 19). Promotion and prevention strategies complement each other and can be included in same intervention program (WHO, 2004). For example, programs aiming at promotion of positive aspects of mental health may also decrease psychological distress and onset of mental health disorders. Schools offer a unique setting and enormous potential for integrating promotion and prevention strategies into career counseling among young people (see e.g. Jane-Llopis & Barry, 2005; Jane-Llopis, Barry, Hosman, & Patel, 2005). This is because no other settings exist where we can reach such a large populations of adolescents who are tackling the same stressful developmental tasks and role transitions simultaneously.

What works and for whom?

The effect sizes of career intervention studies vary widely, perhaps due to the diversity of counseling methods, outcome measures and target groups (Whiston et al., 2003). Consequently, recent research on the immediate outcomes of career choice interventions has focused on the question of what makes interventions effective. Whiston and his colleagues (2003) compared different treatment modalities and found, for example, that groups with a structured format tend to produce better

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proximal outcomes than unstructured groups. Hence they concluded that unstructured interventions may neglect crucial aspects of the career counseling process. Brown and Ryan Krane (2000) examined the question of what constitute the critical ingredients that should be structured in effective career choice interventions (also Brown et al., 2003). They found empirical support for the effectiveness of incorporating the following components in interventions: written exercises, exploration of relevant information, individualized feedback, role modeling, and providing contacts and building support. These components are associated with an increase in the magnitude of intervention outcomes.

Moreover, a crucial issue in career counseling as well as prevention and promotion in the field of mental health is what works best for which subgroup of clients (Heppner & Heppner, 2003; Whiston et al., 2003; WHO, 2002). However, according to the literature, too little is known about how different subtypes of adolescents benefit from career counseling. Prevention practitioners need to know whether they have to design their interventions as an universal prevention program targeted at a whole population group or, alternatively, as a selective prevention program, targeted at subgroups whose risk for developing mental disorder is higher than that of the rest of the population. Heppner and Heppner (2003) postulated that psychologically distressed or depressed participants may respond in different ways to career counseling compared to those who are psychologically well adjusted. This assumption has received strong support from the effectiveness research on career counseling among unemployed adults (Price, van Ryn, & Vinokur, 1992; Vinokur, Price, & Schul, 1995; Vuori & Silvonon, 2005). In addition, various preventive interventions, in domains other than career counseling, have been shown to be effective among people and groups who have increased risk for developing mental health problems (for review, see e.g. Sowden et al., 1997; WHO, 2004). Thus, the effectiveness of career counseling should be examined also among at-risk adolescents, such as those who are psychologically distressed, or have learning disorders, educational pressures, academic failures or low or moderate readiness in the area of career development (Patel et al., 2007; Peterson, Sampson, Lenz, & Reardon, 2002). Studies of this type could significantly increase our understanding of career counseling and help us to develop and tailor more effective interventions for those with the greatest need.

1.3.3 Group counseling framework of the study

The School-to-Work and Towards Working Life group counseling methods are based on the Job Search Program, JOBS, developed at the Michigan Prevention Research Center for recently laid-off workers (Caplan, Vinokur, & Price, 1997; Price et al. 1998; Price & Vinokur, 1995) and on the Työhön method (Vuori & Silvonen, 2005; Vuori, Silvonen, Vinokur, & Price, 2002), a Finnish adaptation of the original JOBS method. The proximal goal of all these methods is to develop the preparedness and attitudes needed in dealing with a stage-specific career transition, such as school-to-school, school-to-work or unemployment-to-employment. As distal goals the methods aim at improving career development and preventing mental health problems associated with career barriers and setbacks. The methods consist of structured intensive course programs, in which the theory-driven contents and teaching techniques are laid down in detail in manuals. The methods include the co-operation model of two group trainers.

Previous experiments among adult unemployed job-seekers

The impacts of the JOBS method have been examined in two randomized field experiments in the United States: In the first, JOBS I conducted in 1986, recently laid-off workers participated in job search workshops lasting for two weeks (24 hours in total). The results of the one-month, four-month and two-and-a-half-year follow-ups showed beneficial, continuing impacts on employment and income level among workshop participants (Caplan, Vinokur, Price, & van Ryn, 1989; Vinokur, van Ryn, Gramlich, & Price, 1991). The intervention was particularly beneficial for persons at high risk for depression. At the four-month and two-and-a-half-year follow-ups, the preventive program significantly reduced the symptoms of depression among the high risk participants (Price, van Ryn, & Vinokur, 1992). The major findings were replicated in JOBS II, conducted in 1991, when the overall duration of the program was reduced to one week (20 hours in total) (Vinokur, Price, & Schul, 1995; Vinokur, Schul, Vuori, & Price, 2000).

The impacts of the Työhön method have been examined in a randomized field experiment in different labor market systems and among workers with longer experience of unemployment compared to the JOBS

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studies. In the Työhön experiment conducted in Finland in 1996, the intensive job search workshops lasted one week (20 hours in total). In line with the JOBS studies, the Työhön program showed a beneficial impact on the quality of employment in the six month follow-up, especially among those who had been unemployed for a moderate time period (Vuori et al. 2002). The program also significantly decreased psychological distress. In the two-year follow-up, participation in the Työhön job search workshops significantly decreased symptoms of depression, and increased the self-esteem of the participants (Vuori & Silvonon, 2005). Compared to their counterparts in the control group, the participants in the experimental group were engaged considerably more often in the labor market, either being employed, or participating in vocational training (Vuori & Silvonon, 2005). Vuori and Vinokur (2005) found that job-search preparedness, the immediate learning outcome of the program, mediated the beneficial effects of the intervention on long-term level of employment outcomes. In the present dissertation, I also expect similar effects among young people making the transition from vocational studies to work, as many of them face the same challenges related to employment as unemployed adults.

In line with the results of the JOBS studies, the beneficial impacts of the Työhön method were stronger among the unemployed, who were initially, before the intervention, classified as belonging to the risk group for depression (Vuori et al., 2002). While most of the effects of the two programs were similar, it seemed as if the impact of these preventive group interventions may have varied somewhat depending on the context, especially on the labor market policies and benefit systems of the country where the program was implemented (Vuori et al. 2002).

Essential components of the group counselling framework

We can define five essential components that contribute to the effectiveness of the School-to-Work and Towards Working Life group methods. The first component is *career or transition skills training*, which means that in a safe and supportive environment students are encouraged to define and practise the skills needed in mastering career developmental tasks related to the transition in focus (Price et al., 1998). The second essential component is *active teaching and learning methods* (Price et al.,

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1998). Trainers use active learning techniques in the teaching of career skills. Instead of lecturing, the trainers use the knowledge and career skills of the participants themselves as part of the learning process, which is elicited through small and large group discussions, role plays and other activities. During the workshop, the participants control the process of learning themselves. The main task of the group trainers is to observe, activate and facilitate the group and to guide participants towards the desired outcomes of the exercises.

A *supportive learning environment* is the third essential component (Caplan et al., 1997; Price et al., 1998). The trainers work to activate and maintain an active learning process and a supportive, co-operative learning environment. During the orientation phase, trainers introduce the background, aims and possible benefits of the program to the participants (task values). The benefits of the program and career planning skills are also pondered in the career skill-related group discussions held throughout the program. Here, the trainers use scientific knowledge regarding career development and intervention research (expert power). In addition to expert power, trainers aim at reducing their social distance from participants by speaking freely about their own career decision process and employment experiences (role-modeling self-disclosure, referent power). By using expert and referent power, and positive, well-targeted, argued feedback, the trainers try to build participants' trust in the group process and encourage them towards self-disclosure (positive emotional arousal) and learning from others (vicarious learning).

Group activities are organized according to the principle of graded exposure so that they lead step by step from procedural knowledge to behavioral skill rehearsals and from easy to more challenging tasks (Caplan et al., 1997). For example, in the School-to-Work work shops, the participants learn how to behave successfully in a job interview in the following way: first, they watch the trainers model the wrong way. Next, they generate suggestions to improve the trainers' modeling. After the trainers have modeled the improved way, students role-play correct approaches themselves. Finally, students apply the learned skills outside the workshop. At each step, they are given direct, well targeted and well argued feedback in order to increase their self-efficacy.

In career counseling it is important to take into account the fact that the use of career skills will not always lead to desired outcomes. For exam-

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ple, unsuccessful job-seeking will sooner or later result in stress, especially among young people who have strong work life-directed motivation and feel pressure to implement a vocational choice and establish a vocational career and identity (McKee-Ryan et al., 2005; Nurmi & Salmela-Aro, 2002; Vuori et al., 2002).

According to the fourth component, *inoculation against setbacks*, participants are guided in problem-solving processes, where they learn to cope with the stress related to mastering career developmental tasks. The purpose is to support career development and prevent problems in mental health (Price et al., 1998, also Vinokur et al., 1995; Vuori et al., 2002). Inoculation against setbacks is accomplished as a process where the group (a) identifies possible setbacks and barriers, (b) generates solutions for barriers and setbacks, and (c) practises overcoming them.

Finally, implementation of the group model requires good knowledge of the essential components and teaching techniques. Consequently, *skilled trainers* are the fifth essential component of the method (Price et al., 1998). Trainers are trained to build trust and to work together in pairs to facilitate group processes that promote the learning of career skills. In addition to these essential components, The School-to-Work and Towards Working Life methods involve the collaboration of the employment and education administrations. Multi-skilled co-operation takes place at the local level through the shared instruction by schools and job centers. For a more detailed description of group counseling techniques see Caplan et al. (1997).

The School-to-Work group method

Career counseling that supports the transition of vocational school graduates to working life is a relatively new domain in vocational psychology and as such has received little empirical attention in the literature so far. The School-to-Work (STW) group method was developed for the use of vocational institutes (Koivisto, Mäkitalo, Larvi, Silvonen, & Vuori, 2002). The proximal goals of the method are improving adolescents' employment preparedness and enhancing positive attitudes toward use of the effective employment strategies. The distal goals of the method are to promote school leavers' implementation of vocational choice, anticipation of subsequent career establishment and to prevent mental

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health problems associated with difficulties finding employment. The STW intervention is a five-day intensive course (20 hours in total) with a highly structured program. The method is described in the trainer's manual and a workbook (Koivisto et al., 2002), both of which are based on the JOBS and Työhön materials (Curran, Wishart, & Gingrich, 1999; Mäkitalo, Tervahartiala, & Saarinen, 1997).

However, despite their obvious similarities, the STW method has several differences compared to the earlier applications. First, in addition to training in job-seeking skills, and similarly to the training in the JOBS and the Työhön methods, the STW group method deals with the coping skills related to career establishment and organizational socialization. In the job seeking exercises, the participants learn to, for example, acquire information on job vacancies, to make job application, to contact employers directly, and to emphasize their personal strengths in a job interview. It also provides training in inoculation against setbacks by preparing the students for barriers and setbacks in job search as well as for barriers that may emerge when they are already working (Meichenbaum, 1984, 2007). Typical barriers among adolescents or emerging adults who have left education may include, for example, lack of job experience as pointed out by a potential employer in a job interview, job interview anxiety (McCarthy & Coffin, 2004), unemployment, a long period of underemployment (Feldman, & Turnley, 1995; Sherer, 2004), or some other problem hindering the attainment of personal work-life goals or establishment of career and vocational identity. It is reasonable to assume that young graduates may benefit from anticipatory stress management before entering an organization, because they have not yet developed such strong socialization skills and such a strong vocational identity as more experienced professionals have. In the organizational socialization exercises, the participants study how to create good contacts in a new organization to promote their own work, and how to get the correct information and training for their own tasks. In addition, they compare their strengths against the employers' requirements, and recognize the kind of skills needed in the work market which they should develop after graduation. Second, in contrast to the earlier methods, the STW program caters for young people who experience feelings of stress about their lack of work experience and the threat of under-employment, and it does not highlight issues related to unemployment, as have the earlier methods.

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The Towards Working Life group method

The proximal goals of the Towards Working Life (TWL) group counseling method focus on improving adolescents' career choice preparedness and enhancing positive attitudes toward career planning. Its distal goals are intended to improve mastery of educational choice, and well being, during transition to secondary studies and to prevent the impairment of mental health associated with career difficulties among ninth graders completing basic education. The TWL intervention is organized as a one week long intensive and highly structured workshop at the end of basic education (15 hours in total). It must be conducted so that the students have enough time to take advantage of the career planning skills they learn during the workshop before they make their choices regarding upper secondary education. The group counsellors work in pairs. Recommendable alternatives are, for example, that the comprehensive school teacher (usually the student's school counsellor) leads the group together with a teacher from the vocational school or an officer from the employment office. The method is described in the trainer's manual and a workbook (Vuori et al., 2006).

In workshops, participants begin to construct their career plans by defining personal strengths and interests; by comparing them to the educational options and professional careers offered in society, and to the challenges posed by these options. Interest and skill inventories, workbooks, guide books and an internet based-program are used for exploring information. This information is then discussed in the workshop and used in small group exercises. The participants also learn to recognize and use institutional resources and guidance, as well as their non-formal social network and other sources of support, in career exploration and planning.

Participants also interview older guest students who have successfully made the transition to upper secondary school or a secondary vocational institute (role-modeling). In accordance with Krumboltz & Worthington's (1999) learning theory of career counseling, they also discuss life-long learning, i.e. adaptation to changing work tasks and environments during their future career and life-wide learning, including the learning opportunities presented by various leisure activities for exploring and expanding vocational interest and capacities. Following the principles of stress inoculation training (Meichenbaum, 1984, 2007), participants also identify possible career choice-related barriers and possible setbacks, such as lack of career

information or social support, career indecision, an unrealistic career plan, or gender inequality, and prepare themselves for overcoming these. At the end of the group work, participants commit themselves to follow through and pursue the career plans they have made during the group process in the workshop (e.g. long-term plans for a route to the desired occupation or short-term plans, such as “Taking a concrete step towards crystallizing my choice regarding secondary education.”).

1.4 Aims of the experimental effectiveness studies

The aim of the present dissertation was to examine the effectiveness of group counseling methods targeted at support mastery in career developmental tasks at the exploration stage, and mental health among young people facing an educational choice or the transition to work. The dissertation focuses on the following key questions in the field of career counseling among adolescents:

1. What are the long-term effects and true benefits of career counseling at the individual level?
2. Do career counseling methods have an influence on mental health?
3. What is the mediating role of the hypothesized immediate outcomes in the long-term effects of career counseling?
4. Who benefit most and at whom should the career counseling interventions be targeted?

The first aim of study I was to examine the effectiveness of the School-to-Work group counseling method in improving goal construction and congruent employment, and preventing psychological distress and depressive symptoms among 17 to 24-year-old vocational school graduates. The second aim of the study was to examine the effects of the intervention among subgroups whose risk for developing a mental disorder was higher than that of the rest of the population. Accordingly, in addition to the main effects, the study examined the interaction effects of the experimental group and participants' initial level of psychological distress and depressive symptoms on all the hypothesized outcomes.

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The aim of study II was to examine a conceptual model focusing on the hypothesized key mediating role of employment preparedness in a successful school-to-work transition and related career counseling intervention. According to the model, learning experiences in the School-to-Work workshop increase participants' employment preparedness that is proximal goal of the intervention. The model also suggests that participants' motivation to achieve their work-life goals influence their learning motivation in the career intervention and thus has an effect on the enhancement of employment preparedness. Finally, employment preparedness is hypothesized to have a mediating effect on three long-term outcomes of the intervention and overall transition process: employment, construction of work-life goals, and mental health.

The first aim of studies III and IV was to examine the effectiveness of the Towards Working Life group counseling method in improving career development and preventing mental health problems among 15- to 16-year-old adolescents finishing their basic education and facing an educational choice between the upper secondary level and vocational studies. The second aim of the studies was to examine the effects among the high-risk adolescents who had learning difficulties or elevated level of depressive symptoms. In addition to the main effects, the interaction effects of the both the experimental group and learning difficulties, and the experimental group and participants' initial level of depressive symptoms were examined.

The first aim of study V was to examine the both the direct and indirect effects of the Towards Working Life group counseling intervention on career choice preparedness and career planning task values. The second aim of the study was to examine the effects of the intervention among adolescents in the greatest need of support who exhibit deficient career choice preparedness and career planning task values at the baseline assessment. Thus, the both the main effects, and the interaction effects of the experimental group and participants' initial level of career choice preparedness and task values were examined.

1.5 The Finnish educational context

The Towards Working Life Study (III, IV and V) focused on the group counseling practice at the first crucial career decision point which Finnish students encounter in the spring-term of the ninth grade. At this point 15- to 16-year- old adolescents are completing comprehensive school and must make a choice regarding their secondary education. The choice must be made between the vocational pathway offered by secondary level vocational schools, and the academic pathway which begins in upper secondary schools. In recent years, about 50% of all students continue on the academic pathway, and about 42% on the vocational pathway (Statistics Finland, 2009). In addition, about 2% opt for the extra tenth grade with the aim of improving their marks before continuing to further education. Selection to secondary education is competitive, based on school grades. Altogether, some 94% of Finnish adolescents enter secondary studies. However, the discontinuation percentage is 5% in upper secondary education aimed at young people, 10% in secondary vocational education aimed at young people, 9% in polytechnic education and 6% in university education (Statistics Finland, 2008). Thus, one reason for the importance of this decision point is that more than one ninth grader in every ten fails to make adequate decisions, drop out of secondary studies, and thus are at increased risk for low quality occupational careers, unemployment, and even exclusion from the labor market (e.g., Bynner, 1998).

The next important decision point occurs three years later. At this juncture 18- to 19-year-old Finns make the decision to enter or not enter to the labour market, to accept or decline a particular job, or to embark on further studies in universities or polytechnics or not etc. Secondary vocational institutions are the educational track for both the labor market and tertiary-level education, whereas upper secondary school functions as a track to further education, most likely to higher education. The School-to-Work Study (I and II) concentrated on the group counseling practice aiming at helping graduates of vocational institutes in the transition to working life.

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2.1 Methods

2.1.1 The School-to-Work Study

Participants

The School-to-Work Study was carried out in five institutes that provide secondary vocational education in western Finland during the academic years 2000–2001 and 2001–2002. Participants were 416 male (31%) and female (69%) vocational school graduates facing the transition to working life or further studies. They were 17 to 24 years of age (median age at enrolment was 18; $M=19$, $SD=1.6$). The ethnic background of the participants was Finnish, with the exception of one Russian. The data of the School-to-Works Study were analyzed in studies I and II.

Study design and procedure

First, students were invited to information meetings held in their schools, where they filled in the baseline questionnaire (T1, see Figure 2 p. 43). The students were informed about the study and told that participation in the activities of the experimental and control groups would be counted as part of their school work, whereas participation in the study (i.e. filling in the questionnaires) would be entirely voluntary. After the baseline measurement, randomization was carried out separately for each class or combination of two classes. Half of the participants in each class were randomized into the experimental condition and the other half into the control condition. The interventions were begun immediately

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after the randomization. Of the participants (total N=416), 210 and 206 participated in the experimental and control group, respectively.

Using self-administered questionnaires, a post-treatment and a follow-up assessment were conducted after the completion of the intervention program. The post-treatment questionnaire was completed in classrooms at the end of the last day of the intervention (T2, N=383). The follow-up questionnaire was administered by mail ten months after the intervention and about seven months after the participants had graduated from vocational school (T3, N=334).

The proportion of vocational school graduates in the experimental group was 87% and in the control group 84% at T3. Of those who had not completed their studies at T3, 74.3% were students who were not only gaining a vocational qualification but also wished to complete the high school matriculation examination and thus required a longer study period. Over half of the participants who were vocational school graduates and were students at T3 were studying at a tertiary level vocational institute.

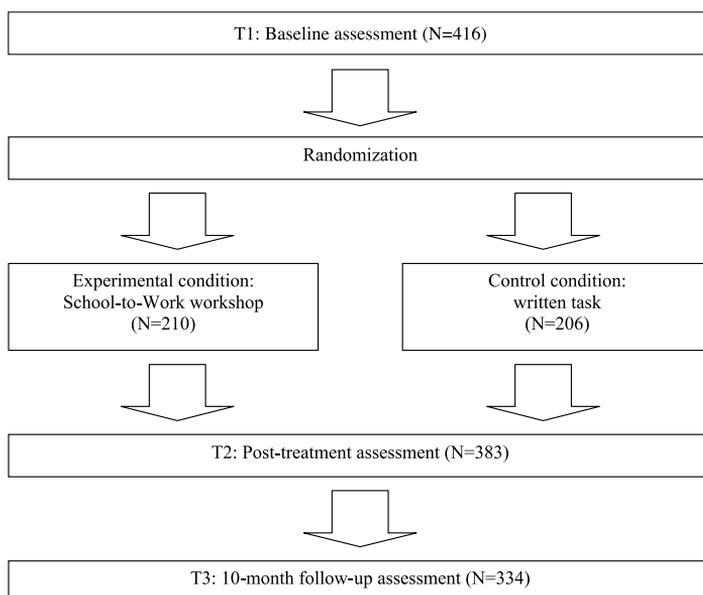


Figure 2. Design of the School-to-Work Study.

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Experimental condition

The School-to-Work intervention was delivered to 25 groups. The intervention consisted of a series of five half-day group sessions with a total duration 20 hours including breaks, held over a one week period. The number of participants in each intervention group was 6 to 22 (Mean=11), and each group was trained by two co-trainers. One of the trainers was always a teacher from the vocational school and the other was a local special employment service agent. Nine teams of co-trainers had been set up to lead the groups. All the group trainers were trained for their tasks. At least one in each pair of trainers had training experience from more than one previous School-to-Work group. The trainers used manuals that provided detailed instructions on the implementation of the group activities. In addition, employers were affiliated to local co-operation networks participated in information interviews held in the workshops. In these interviews, participants interviewed employers and gathered information about recruitment and organizational socialization. The participants used workbooks, in which they could write their analyses and conclusions and which could function later as a personal employment guidebook.

During the implementation of the study, a training supervisor and researchers supervised the integrity of the implementation and delivery of the School-to-Work intervention. In meetings with the training supervisor, the trainers reported their experiences to researchers and the trainer supervisor and received guidance in training-related issues. The trainers could also discuss their work with a researcher just before the beginning of each workshop. The researchers observed the quality of the first workshop in the experiment via video. In addition, the trainers kept detailed workshop diaries during the first year of the study and submitted them to the researchers.

Control condition

The participants in the control condition simultaneously, but independently and individually, completed a written task that was equivalent in content to the School-to-Work intervention task. On the basis of the provided written material on job search, they prepared a job application,

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a personal record sheet, and a self marketing letter for a job advertisement found on the Internet. Thus, the control group participants completed an intervention that included some of the content of the intervention provided to the experimental group. However, the control group intervention focused only on job search skills and did not include any of the topics related to organizational socialization. Furthermore, compared to the workshops in the experimental group, the written materials given to the control group paid little attention to stress management skills. Finally, contrary to the experimental group, the control group intervention did not include exercises based on theories of active and collaborative learning, or continual guidance by trainers. Instead, the control group participants received only brief instructions regarding the task they were to complete independently.

Variables and concepts

A summary of the concepts and related variables used in the School-to-Work Study is presented in Table 1.

Effectiveness of randomization, response rates and attrition

Successful randomization is crucial to protect the internal validity of an experimental design. Of the participants who responded to the baseline measurement, 80% (T1, N=416) also responded to the follow-up questionnaire (T3, N=334). Analysis of integrity was needed to reveal whether non-response influenced the balance between the experimental and control groups during the follow-up (T3). Examination of the differences between the experimental group and the control group at the baseline measurement (T1) among those who participated in the follow-up (T3) revealed a statistically significant difference only in the mean of employment self-efficacy ($p < .05$). Because this imbalance appeared among all the participants at the baseline measurement, the integrity of the experimental design was maintained from the baseline (T1) to follow-up measurement (T3).

According to the post-treatment assessment (T2), the participants in the experimental group attended the workshops for a mean of 4.6 four-hour sessions. The proportion of participants who attended the

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Table 1. Summary of the baseline control and outcome variables used in studies I and II

Study	Variables		
Study I	Baseline control	<ul style="list-style-type: none"> – Age – Gender – Employment self-efficacy – Prior education – Employment situation – Congruence between employment and education – Work-life goals – Finances and property goals – Depressive symptoms – Psychological distress 	
	Risk group	– Risk for mental health disorder	
	Intervention	– Participation in the STW workshop	
	10-month follow-up assessment		
	1. Employment outcomes	<ul style="list-style-type: none"> – Employment status – Congruence between employment education and career plans 	
	2. Personal goal outcomes	<ul style="list-style-type: none"> – Work-life goals – Finances and property goals 	
	3. Mental health outcomes	<ul style="list-style-type: none"> – Depressive symptoms – Psychological distress 	
	Study II	Baseline control	<ul style="list-style-type: none"> – Employment situation – Employment preparedness – Financial strain – Depressive symptoms
		Intervention	– Participation in the STW workshop
		Post-treatment assessment	
1. Learning outcome		– Employment preparedness	
10-month follow-up assessment			
1. Employment outcome		– Employment status	
2. Personal goal outcome		– Work-life goals	
3. Mental health outcomes		<ul style="list-style-type: none"> – Depressive symptoms – Financial strain 	

workshops for at least four out of the five days was 94%, and only one person failed to attend the workshops at all. Thus, the present study includes only a negligible number of non-participants or no-shows. To ensure the integrity of the randomization design and prevent selection bias, we followed the guidelines of Cook and Campbell (1979)

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and conducted all our analyses on the basis of a complete randomized experimental group ignoring the question of whether or not a certain participant was present in a workshop.

2.1.2 The Towards Working Life Study

Participants

The ongoing Toward Working Life Study was carried out in eleven comprehensive schools in western and southern Finland during the academic years 2003–2004 and 2004–2005. Participants were 1034 Finnish ninth graders, aged 14 to 15 years, finishing their basic education and facing choice between upper secondary and vocational school. Fifty percent of the participants were girls and 11% of the participants reported dyslexia or learning difficulties. The most of the participants (98%) had Finnish as their mother tongue. The data of the Towards Working Life Study was analyzed in studies III, IV and V.

Study design and procedure

In each of the eleven participating schools, 4 to 8 classes of ninth graders were invited to information sessions held in their schools. In these sessions they were informed about the study and told that participation in the workshops formed part of their school work, whereas filling in the study questionnaires was entirely voluntary. The same information was also provided to parents. At the meetings, the participants filled in a questionnaire for the baseline measurement (T1, see Figure 3 p. 48). After the baseline measurement, the participants were randomly assigned to either the experimental or control group. Randomization was carried out for pairs of classes, so that approximately half of the pupils in any combination of two classes were randomly assigned to the experimental group (N=522) and half to the control group (N=512). The participants in the experimental group were invited to the TWL workshops. The control group participated in normal school work.

In addition to the T1 baseline assessment, participants were assessed again in the classroom at the end of the last day of the intervention (T2), and then followed up one year later (T3) at a time when most

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were continuing their studies either in secondary vocational institutes or non specialist upper secondary schools. Most of the T3 data were collected in the classroom. Of those assessed at T1, 89% provided data at T2 (N=921), and 75% provided the assessment data at T3 (N=780). In addition to these responses, 123 participants responded to questions regarding their upper secondary level or vocational studies by telephone at T3. Thus, at T5 follow-up, information regarding educational track was received from 87.2% of the participants who had responded to the baseline measurement questionnaire.

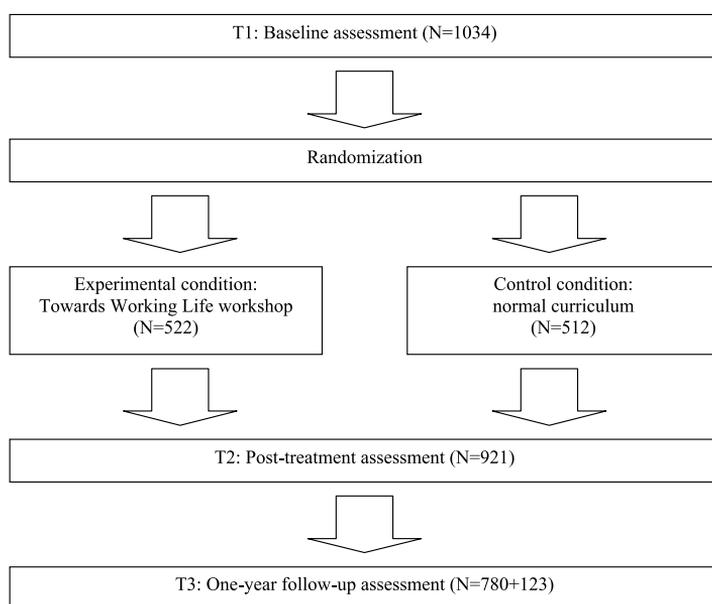


Figure 3. Design of the Towards Working Life Study.

Experimental condition

The experimental treatment consisted of the delivery of the intervention to groups using a workshop format. Each intervention workshop lasted 15 hours spread over four to five days. Twenty-five groups were trained

2. OVERVIEW OF THE ORIGINAL STUDIES

in these workshops. The number of participants per group varied from 18 to 25 (Mean=20). Each group was trained by two co-trainers. One of the trainers was always a school counselor from the comprehensive school and the other was mostly a teacher from the vocational school. Some workshop activities were carried out outside school in a local employment office. The trainers used manuals that provided detailed instructions on the implementation of the group activities. In addition, older guest students were affiliated to local co-operation networks participated in information interviews held in the workshops. In these interviews, participants interviewed older guest students who have successfully made the transition to upper secondary school or a secondary vocational institute. The participants used workbooks, in which they could write their analyses and career plans.

Several steps were used to ensure the fidelity of the delivery of the intervention. All the group trainers took part in a three-day course. The intervention program was detailed in a manual issued to trainers while the participants used structured workbooks. Trained supervisors and researchers supervised group trainers and school headmasters. The project leaders in each town participated in the group training, visited all the group sites in the schools, and supervised the quality of the group activities.

Control condition

The control group participated in normal school work, including normal lessons and normal access to a school counselor.

Variables and concepts

A summary of the concepts and related variables used in the Towards Working Life Study is presented in Table 2.

Effectiveness of randomization, response rates and attrition

Attrition in the experimental design was analyzed following the recommendations of Hansen, Collins, Malotte, Jonson and Fielding (1985). We used logistic regression to analyse whether the baseline measurement (T1)

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Table 2. Summary of the baseline control and outcome variables used in studies III, IV and V

Study	Variables	
Studies III and IV	Baseline control	<ul style="list-style-type: none"> – Gender – School grades (GPA) – Learning difficulties – Depressive symptoms – School burnout
	Risk group	<ul style="list-style-type: none"> – Risk for depression – Learning difficulties
	Intervention	<ul style="list-style-type: none"> – Participation in the TWL workshop
	One-year follow-up assessment	
	1. Educational track	<ul style="list-style-type: none"> – Upper secondary school – Vocational studies
	2. Mental health outcomes	<ul style="list-style-type: none"> – Depressive symptoms – School burnout
Study IV	Baseline control	<ul style="list-style-type: none"> – Career choice preparedness – Career planning task values
	Intervention	<ul style="list-style-type: none"> – Participation in the TWL workshop
	Post-treatment assessment	
	1. Learning outcomes	<ul style="list-style-type: none"> – Career choice preparedness – Career planning task values

predicted the response at the second follow-up measurement (T3) i.e. whether the respondents and dropouts at the post-treatment assessment (T2) or at the one-year follow-up (T3) differed in the measures assessed at baseline. In these analyses we used response at T3 as a dependent variable (1=respondent, 0=non-respondent) and the treatment condition (1=experimental, 0=control) and specific measures (e.g. information seeking self-efficacy, GPA, SES one at time) as independent variables. According to the analyses there were systematic dropouts at the post-treatment and follow up assessments. Compared to non-respondents, respondents at T2 had better school performance, higher career planning-related attainment values, and more social ties involving career-related discussions at T1. The same differences with some additions were detectable also at T3: Respondents had better school performance, higher career planning-related attainment and utility values, higher educational aspirations, and more social ties involving career-related discussions at T1. In addition,

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they were more likely than non-respondents to come from families with higher socioeconomic status.

Most importantly, analysis of integrity was conducted to reveal whether the experimental vs. control condition influenced the response rate at T3. Integrity was studied by adding the interaction terms of the treatment condition and specific measures (e.g. the treatment condition x GPA) to the logistic regression analyses. No statistically significant interactions were found. Thus, it can be concluded that the integrity of the experimental design was maintained from the baseline (T1) to the follow-up measurement (T3).

Finally, the number of “no-shows” in the experimental group was checked. According to the first follow-up measurement (T2), participants in the experimental group attended the workshop for a mean of 4.6 days. The proportion of participants who attended for at least four days was 94%, and only two persons did not participate at all. Since the five groups completed the program in four days, it can be concluded that the number of no-shows was insignificant. However, as in the School-to-Work Study, all the analyses were conducted on an intent-to-treat basis with a complete randomized experimental group regardless of whether or not certain participants missed some workshops.

2.2 Results

2.2.1 Study 1: Effects of the School-to-Work group method among young people

The first aim of study I was to examine effectiveness of the STW intervention in improving goal construction and congruent employment, and preventing psychological distress and depressive symptoms among adolescents. The second aim of the study was to examine the effects of the intervention among subgroups whose risk for developing a mental disorder was higher than that of the rest of the population. Thus, in addition to the main effects, the interaction effects of the experimental group and participants' initial level of psychological distress and depressive symptoms were examined. In the STW effectiveness trial, 17- to 24-year-old vocational school graduates were randomized into a control

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and an experimental group. They were assessed at baseline (T1, N=416), immediately after the intervention (T2, N=383), and ten months later (T3, N=334). About seven months after leaving school, a ten-month follow-up assessment was conducted. In study I, the baseline and ten-month follow-up assessments were used.

The effects of the intervention on employment at the ten-month follow-up were studied using logistic regression models. According to the results the intervention significantly explained employment status at the follow-up. Those who participated in the School-to-Work workshop had a 1.65-fold (OR) probability of becoming employed compared to the control group. The total increase in employment obtained by the group intervention was evaluated at approximately 6.3%. This would mean an approximate proportional increase of 27% compared to the control situation, were the participants had job search-related written homework. The results of the other model also showed that participation in the counseling workshop significantly predicted the congruent employment at the follow-up. In other words, compared to the controls, those who participated in the workshop had a 2.08-fold chance of being employed in a job that corresponded to their education and promoted the accomplishment of personal career plans. The correspondence between employment and education at baseline was also controlled for in this model.

The results of the logistic regression models also showed that the intervention significantly affected the construction of personal goals related to the current developmental role transition. Participation in STW multiplied the probability of reporting at least one personal work-life goal at the follow-up by 2.30. In this logistic model, work-life goals at baseline were also controlled for. According to other model, participation in the workshop multiplied the probability of reporting at least one personal financial or property goal at the follow-up by 2.48. In the latter logistic model, personal finance and property goals at the baseline were also controlled for.

The effects of the intervention on mental health were examined by using linear models. The intervention did not have any main effect on the mental health outcomes at the follow-up assessment. However, the intervention had a significant preventive effect on psychological distress and depressive symptoms among those initially at risk for a mental disorder. Partial η^2 concerning the interaction effect of the intervention and

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risk for psychological disorders at baseline on psychological distress at the follow up was 0.09 (moderate effect size). Partial η^2 of the interaction effect of the experimental group and risk for psychological disorders at baseline on depressive symptoms at the follow up was 0.02 (low effect size). Thus, participation in the School-to-Work workshops alleviated psychological distress and depressive symptoms among those who were at risk for psychological disorders, or in another words, had elevated level of psychological distress at the baseline measurement. Baseline levels of depressive symptoms or psychological distress respectively were controlled for in these models.

2.2.2 Study II: Transition to work: Effects of preparedness and goal construction on employment and depressive symptoms

The aim of study II was to examine a conceptual model focusing on the hypothesized key mediating role of employment preparedness in a successful school-to-work transition and related career counseling. According to the model, learning experiences in the School-to-Work workshop increase participants' employment preparedness, which is a proximal goal of the intervention. The model also suggests that the participants' motivation to achieve their work-life goals influences their learning motivation in career intervention and thus enhances employment preparedness. Finally, employment preparedness was hypothesized to mediate the effects of the intervention on three long-term outcomes: employment, construction of work-life goals, and mental health. Study II used the data from the baseline (T1, N=416), post-treatment (T2, N=383) and ten-month follow-up assessments (T3, N=343).

A modified version of the structural equation model used in the study of the effectiveness of Työhön job-search intervention (Vuori & Vinokur, 2005) was constructed (Figure 1 p. 19). According to the model, participation in the School-to-Work workshop predicted higher employment preparedness at the post-treatment assessment. Moreover, as hypothesized, employment preparedness at the post-treatment assessment increased employment at the ten-month follow-up. To examine whether employment preparedness mediated the effect of the intervention on employment status, the Sobel test (Sobel, 1987) was applied. The test

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resulted in a non-significant effect for the two-tailed test. However, given the a priori and directional nature of our mediation hypothesis, a one-tail test could be considered justified, and accordingly statistically significant ($p < .05$). Thus, employment preparedness partially mediated the effect of the intervention on subsequent employment status. In addition, a direct statistically significant effect of the intervention on employment status at the follow-up was found.

As hypothesized, construction of goals related to working life at baseline enhanced employment preparedness at the post-treatment assessment. Employment preparedness did not directly improve the construction of work-life goals. Although T2 employment preparedness did not have a direct positive effect on work-life goals at T3, it was associated with higher rates of employment at T3, which, in turn, had a positive effect on the construction of work-life goals at T3. Thus, there is also support for the hypothesis that employment had a positive effect on the construction of work-life goals at the follow-up. However, as indicated by the Sobel test for mediation, employment status was not a significant mediator of the effect of employment preparedness on work-life goals (Sobel $t = 1.46$, ns).

Finally, as was predicted, employment status at the follow-up reduced financial strain at the same time point. In turn, the reduction in financial strain had a direct effect on depressive symptoms at the same time point. Finally, according to the Sobel test (given the a priori and directional nature of our mediation hypothesis, a one-tail test is justified), financial strain was a significant mediator of the effect of employment preparedness on depressive symptoms (Sobel $t = 1.93$, $p < .05$).

2.2.3 Studies III and IV: Effects of an intervention on mental health and transition to post-basic education

The first aim of the studies III and IV was to examine the effectiveness of the Towards Working Life intervention in improving transition to secondary education and preventing mental health problems among 15–16 year-old ninth graders completing basic education. The second aim of the study was to examine the effectiveness of the intervention among the high-risk adolescents who had learning difficulties or an elevated level of

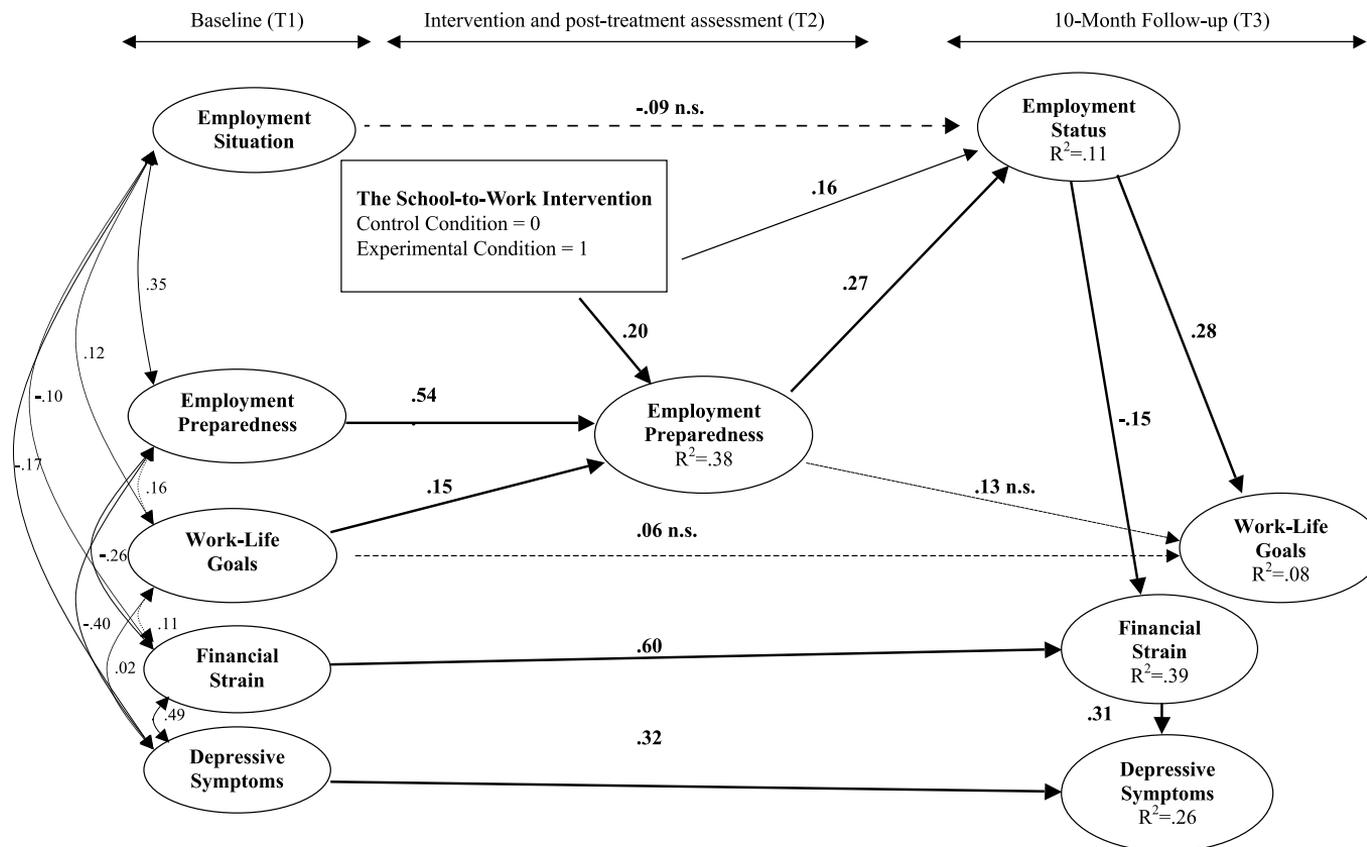


Figure 4. The direct and mediation effects (standardized regression path coefficients) of the School-to-Work Intervention. All paths with solid lines are significant at .05 or above. Paths with broken lines are not significant. The squared multiple correlations for mediator (T2) and outcome variables (T3) are marked at the bottom of each construct. $\chi^2(131, N=416)=157.944$; $p=.05$, NFI=.95, CFI=.99, RMSEA=.02.

2. OVERVIEW OF THE ORIGINAL STUDIES

depressive symptoms. Thus, in addition to main effects, the interaction effects of membership of the experimental group with learning difficulties and baseline level of depressive symptoms were examined. In the Towards Working Life effectiveness trial, ninth graders were randomized into a control and an experimental group. They were assessed at baseline (T1, N=1034), immediately after the intervention (T2, N=921), and one year later (T3, N=780+123). At the time of the one-year follow-up, most of the study participants were continuing their studies either in secondary vocational schools or non specialist upper secondary schools. In studies III and IV, the baseline and one-year follow-up assessments were used.

The effects of the intervention on educational track, i.e. the transition to upper secondary or vocational studies, were examined using logistic regression models. In these models, gender, school grades (GPA), learning difficulties, and risk for depression at baseline, were controlled for. According to the models, the intervention did not have a significant effect on educational track.

The preventive effects of the intervention on mental health at the one-year follow-up were examined using linear regression models. According to the models the intervention did not have any main effect on the mental health outcomes. However, the TWL intervention had two significant interaction effects with baseline risk for depression and learning difficulties on mental health at the one-year follow-up. First, among those initially at risk for depression, the intervention decreased the symptoms of depression. In this analysis, baseline level of depression was also controlled for. For students who were at risk for depression and had learning difficulties, the intervention decreased school burnout. In this analysis, the level of school burnout at baseline was also controlled for.

2.2.4 Study V: Effects of a career choice intervention on components of career preparation

The first aim of study V was to examine both the direct and indirect effects of the intervention on career choice preparedness and career planning task values. The second aim of the study was to examine the effects of the intervention among the adolescents who exhibited deficient career choice preparedness and career planning task values at the baseline assessment.

2. OVERVIEW OF THE ORIGINAL STUDIES

Thus, both the main effects, and interaction effects of the experimental group and participants' initial level of career choice preparedness and task values, were examined. Study V used the data from the baseline (T1, N=1034), and post-treatment assessments (T2, N=921).

The results of repeated measures ANOVA analysis demonstrated statistically significant group by time interaction effects for career choice self-efficacy in decision-making (partial $\eta^2=.013$), career choice self-efficacy in information-seeking (partial $\eta^2=.037$), inoculation against setbacks (partial $\eta^2=.007$), attainment value (partial $\eta^2=.011$), and utility value (partial $\eta^2=.004$). In other words, and more specifically, the means of these variables increased over time (i.e., after the intervention), and significantly more so in the experimental than in the control group. In addition, The results demonstrated statistically significant group by time by baseline level interaction effects on career choice self-efficacy in decision-making (partial $\eta^2=.085$), inoculation against setbacks (partial $\eta^2=.032$), attainment value (partial $\eta^2=.027$), and utility value (partial $\eta^2=.027$). More clearly, the means of these variables increased over time (i.e., after the intervention), and significantly more so among the experimental group participants who exhibited low level values at the baseline measurement than among those who originally exhibited high level values. The effects of gender and school grades (i.e., GPA) were controlled for in the analyses.

According to the structural equation model, participation in the TWL workshop had a direct, positive effect on career choice preparedness at the post-treatment assessment (Figure 2 p. 43). Participation in the intervention did not have a statistically significant direct effect on career planning task values. However, career choice preparedness increased positive career planning task values at the post-treatment assessment. The results of the Sobel test (Sobel, 1987) showed that career choice preparedness mediated the effect of the intervention on career planning task values (two-tailed test, $t=5.09$, $p>.001$). Finally, career choice preparedness at baseline increased positive career planning task values at the post-treatment assessment.

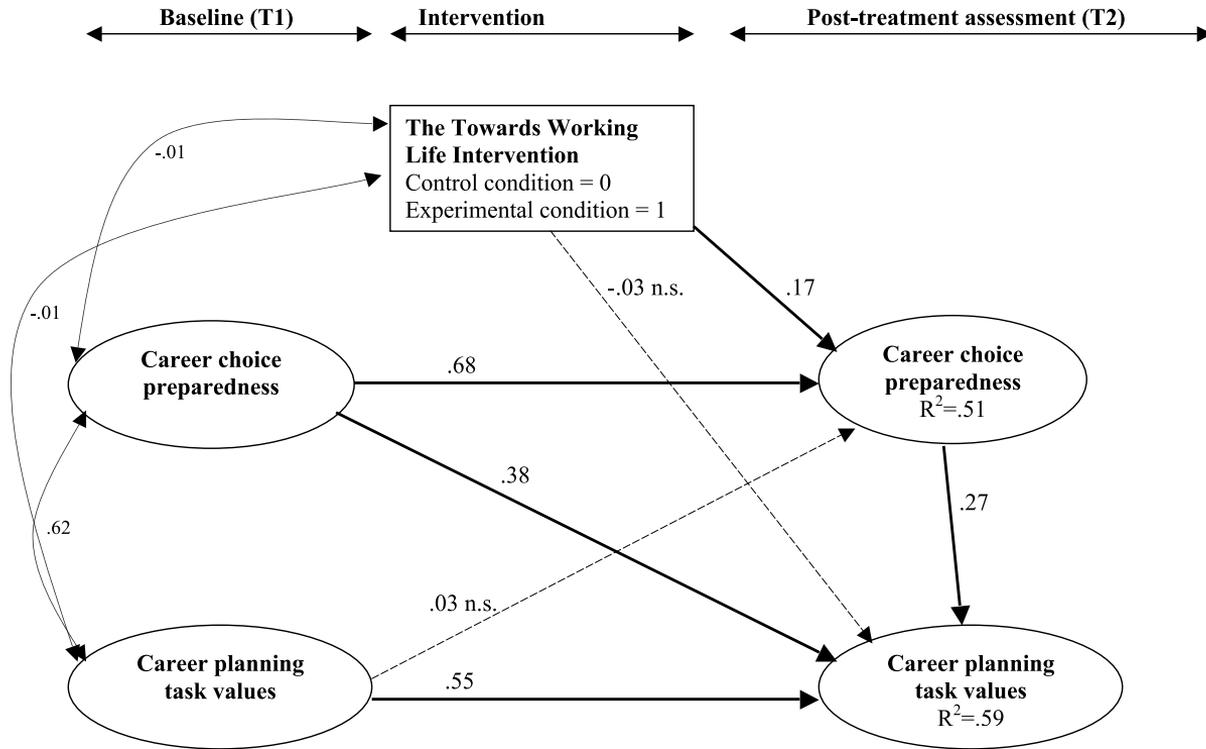


Figure 5. Structural model of direct and indirect effects (standardized regression path coefficients) of the Towards Working Life intervention. All paths with solid lines are significant at .001 or above. Paths with broken lines are not significant. The squared multiple correlations for outcome variables (T2) are marked at the bottom of each construct. $\chi^2(105, N=1034)=209,071$; $p<0.001$, NFI=.97, NNFI=.98, CFI=.99, RMSEA=.022).

3. GENERAL DISCUSSION

The present dissertation has two main aims. First, it examined the effectiveness of two group counseling methods in promoting adolescents' career development and preventing mental health problems associated with difficulties in career development. These methods were targeted at strengthening participant's preparedness to deal with career choice and the school-to-work transition, and at enhancing positive attitudes toward the use of effective career development strategies. The second main aim was to reveal the hypothesized key mediating role of career preparedness in career development and counseling. Two randomly assigned effectiveness trials were carried out. The first field trial examined the effectiveness of the School-to-Work intervention in attempts improving the transition to working life and preventing mental health problems associated with failed transitions among vocational school graduates. The second field trial examined the effectiveness of the Towards Working Life intervention in improving educational choice and preventing mental health problems among ninth graders facing the transition to upper secondary or vocational school.

In general, the results of these trials suggest that adolescents' career development and mental health can be promoted with social cognitive theory-driven counseling workshops. First, it was shown that adolescents' employment and implementation of vocational choice can be promoted with career counseling. Second, the experimental career interventions showed that career counseling can have beneficial preventive effects on mental health among adolescents who are in greatest need of support or are in risk for developing a mental health disorder. Third, this research highlights the causal role played by the boosting of career preparedness as a proximal goal of career counseling. Fourth, the results suggest that

the long-term effects of career counseling among adolescents are relatively small but significant and some of these effects appear only among subgroups. Consequently, a more cost-effective approach than targeting at whole age group would be the targeting career interventions carefully at those who benefit most.

3.1 Effectiveness of the School-to-Work group intervention

3.1.1 Long-term effects of the intervention

The distal goals of the School-to-Work group career counseling method are to promote school leavers' implementation of vocational choice, anticipation of subsequent career establishment and to prevent mental health problems associated with difficulties finding employment among the adolescents encountering transition from vocational school to work. Accordingly, one major aim of the present dissertation was to examine the effectiveness of the STW intervention in improving congruent employment, goal construction and preventing mental health problems among adolescent vocational school leavers.

Effects on career development

The results of this research revealed that the STW group intervention had beneficial effects on employment among the adolescents who were facing the transition from vocational education to the labour market. The total gain in employment achieved by the group intervention was evaluated at approximately 6.3% in this study. This would mean an increase of approximate 27% in the proportion of employment compared to the control situation, where the participants had job search-related written homework. This gain in employment due to the intervention is in line with previous findings on the effectiveness of the JOBS and Työhön job search programs, which apply similar group training principles but among adult unemployed workers (Caplan et al., 1989; Vinokur, Price, & Schul, 1995; Vinokur et al., 2000; Vuori & Silvonen, 2005; Vuori et al., 2002).

3. GENERAL DISCUSSION

The results also showed that school leavers who participated in the STW workshop were more successful than controls in acquiring jobs that corresponded to their vocational education and promoted the accomplishment of personal career plans. Thus, in accordance with its distal goal, the School-to-Work workshops helped graduates not only in gaining employment but also in implementing a vocational choice and finding an adequate congruence between their vocational self-concepts and the work environment. This beneficial effect may also have improved adolescents' future development for at least two reasons: First, the career theorists (e.g. Savickas, 2005, Savickas et al., 1996; Super, 1984, 1990) have stressed that congruence between vocational self concepts and the work environment is the main predictor of job and career satisfaction. Second, according to the life-span theorists' (Super, 1984, 1990; Super et al., 1996) principle of progressive task mastery and related empirical evidence (e.g. Jepsen & Dickson, 2003; Scherer, 2004), the successful implementation of a vocational choice creates a good foundation for coping with the tasks of the establishment stage. However, if Super's (1982) proposition that mastering tasks in the pre-existing stage is taken as a precursor to but not a prerequisite of mastering tasks in the subsequent stage, we are not able to draw strong conclusion about the effects of the intervention on the progress of adolescents in the career establishment stage. Finally, we can conclude that, at least, participation in the STW workshop hastened the implementation of a vocational choice among the vocational school graduates.

This dissertation also examined whether the School-to-Work group intervention promotes the setting of personal goals related to two current and closely connected role transitions: the transition from school to work and beginning a financially independent life. The results showed that participation in the STW workshop promoted the setting of both work-life related personal goals and finance- and property-related personal goals after graduation. These results can be interpreted to mean that the group intervention promoted the experience of control and predictability over the transition to working life and to a personal financial future among the vocational school graduates.

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Effects on mental health

In addition to improving career development, the other distal goal of the School-to-Work group method is to prevent mental health problems caused by the setbacks young people often have to face in the labour market. Accordingly, this dissertation examined long-term effects of the STW intervention on mental health. The results of the ten-month follow-up did not show statistically significant main effects of the intervention either on depression or psychological distress among the research group as a whole. The lack of a statistically significant main effect on depression over the ten-month follow-up is in line with the previous research on the JOBS and Työhön methods, where the main effects on depression have been found to be insignificant in the one-, four- and six-month follow-ups, only reaching statistical significance in the two-year follow-ups (Vinokur, Price, & Schul, 1995; Vinokur et al., 1991; Vinokur et al., 2000; Vuori & Silvonon, 2005; Vuori et al., 2002). However, unlike Vuori et al. (2002) in the six-month follow-up of the Työhön study the present study did not show a main preventive effect on psychological distress. A possible reason for this is the contextual difference between these experiments. All the participants in the Työhön study were coping with unemployment. In contrast, a noticeable proportion of the participants in the School-to-Work Study had either already found a job at the baseline measurement (22%), or were not facing the transition to the labor market but continuing their studies as full time students (33%), e.g. in tertiary level vocational institutes, at the time of the follow-up. Thus neither the already employed nor the student participants were coping with distressing job-seeking tasks during the study, which may have reduced the preventive effects on mental health among the research group as a whole.

However, a major aim of this dissertation was to examine effectiveness of career counseling among subgroups whose risk for developing a mental disorder was higher than of the rest of the population. As expected, the intervention had two significant interactions which posed a risk for psychological disorder. According to the results, participation in the School-to-Work groups prevented psychological distress and symptoms of depression among those who had elevated symptoms of psychological distress at the baseline assessment and, thus, were classified

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as belonging to the psychological disorder risk group. The size of the effect of the interaction was greater on psychological distress (moderate) than on depression symptoms (low). A possible reason for this is that psychological distress develops sooner than depression when one is faced with continuous employment difficulties. Accordingly, the preventive interaction effect may appear more clearly on psychological distress than depression during a relatively short follow-up time.

In contrast to the previous intervention studies among adult unemployed job seekers, interactions with risk for depression were not found in the School-to-Work Study. In the JOBS and the Työhön studies, mental health effects were statistically significant in the two- and six-month follow-ups among those who had been at risk for depression (Vinokur et al., 1995; Vuori et al., 2002). This slight difference between the present and previous experiments may partly be due to the fact that symptoms of depression are more common among adult unemployed job-seekers than among young vocational college graduates. Another, but not contradictory, interpretation of this difference might be that in this study the preventive effects on mental health were targeted specifically at the graduates who had psychological distress arising from their current life situation. According to the present results one relevant source of distress is financial strain. This may be true particularly among adolescents who have not been able to find employment after graduation, can not resort to their parents' for economic support and need an income for independent living. Another source of distress may be the pressure on vocational graduates to implement their vocational choice and self-concepts in the world of work and to establish a career (see. e.g. McKee-Ryan et al., 2005). Consequently, it seems that in line with the developmental approach to mental health promotion the STW method helps young graduates cope transition phase-related stress factors that could threaten their mental health (Hodgson et al., 1996).

3.1.2 Mediating role of employment preparedness

The proximal goals of the School-to-Work method are improving adolescents' employment preparedness and enhancing positive attitudes toward use of the effective employment strategies. One aim of the present dissertation was to examine the hypothesized key mediating role

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of employment preparedness in successful school-to-work transition and effectiveness of career counseling (see Figure 1 p. 19). According to the effectiveness model of the group counseling framework applied in this study, employment preparedness was hypothesized to have a mediating effect on three long-term outcomes of the intervention and overall transition process: employment, construction of work-life goals, and mental health.

First, the present results demonstrated that improved employment preparedness helps vocational school graduates achieve employment (see Figure 4 p. 55). As expected in the hypothesized model, participation in the STW intervention increased employment preparedness and this, in turn, improved employment. Therefore, the results support the assumption that employment preparedness plays a key mediating role in explaining the effectiveness of the School-to-Work intervention, particularly on employment. These results are consistent with the theoretical principles applied in the intervention (Caplan et al., 1997; Price et al., 1998; Price & Vinokur, 1995) and earlier research findings demonstrating that job-search preparedness mediated the beneficial effects of the Työhön Job Search Program on employment outcomes among adult unemployed job-seekers (Vuori & Vinokur, 2005). The present study adds to the recent literature on employment preparedness (Vuori & Vinokur, 2005) and job search (e.g. Saks, 2006) by providing evidence on the causal role of employment preparedness in late adolescents' and emerging adults' success in navigating the transition to working life.

Second, the results showed that the School-to-Work group intervention also promoted employment directly (see Figure 4 p. 55). This result indicates that employment preparedness does not completely mediate the effects on employment, but that other parallel mediating variables, not measured in this study but worthy of attention in further research, may also exist. Based on the literature on career theories (Lent et al., 1999) and the theoretical principles of the intervention method (Caplan et al., 1997), other mediating processes may be associated with participants' attitudinal preparation in these workshops (see also Ajzen, 1991; Bandura, 1986; Eccles & Wigifield, 1995). For example, participation in the School-to-Work groups may have improved participants' outcome expectations and task values in relation to the job-search strategies learned. Although the School-to-Work Study stressed the role of employment preparedness, the intervention also targeted the attitudinal

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component. Other possible reason for the direct effect of the intervention on employment is that certain job-search skills and employment socialization practices that were learned in the intervention but not captured in the measure of employment preparedness contributed to employment 10 months later.

The model examined here also suggests that participants' motivation to achieve their work-life goals influences their learning motivation in a career intervention and thus has an effect on the enhancement of employment preparedness. In support of the model, employment preparedness was stronger among the participants who had constructed work-related goals before the intervention compared to those who had not or whose personal goals were directed towards other life domains (see Figure 4 p. 55). I interpret this result as follows: the participants in both the experimental and control conditions who were planning to make the transition to working life in the near future took advantage of the opportunity to learn and practice the skills and strategies needed in job search and organizational socialization. Those who had the intention to enter the labor market and constructed work-life goals experienced the interventions as useful in their life situation. Clearly, they had stronger motivation to participate in the intervention, which produced better results in terms of employment preparedness compared to those who did not have work-life goals. Instead, those who had no work-life goals may have been navigating toward other roles, e.g. those of a student or a parent, or were perhaps planning to perform military or civilian service and thus may have not experienced the intervention as meaningful in their life situation.

Among those entering the labor market, the boost in employment preparedness can be seen as a manifestation of primary control (Heckhausen & Schulz, 1995, 1999; Heckhausen, Wrosch, & Schulz, 2010). For these individuals, greater investment of effort, coping skills, and time in the accomplishment of their work-life goals was likely to increase the probability of employment. The present findings, along with the results presented above, support the assumption that strengthened primary control also promoted the implementation of the individual's vocational choice and related self-concepts during the transition to working life.

In accordance with the motivational theory of life-span development (Heckhausen & Schulz, 1995, 1999; Heckhausen et al., 2010), the results

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demonstrated that the beneficial impact of the School-to-Work intervention on employment preparedness facilitated the transition to working life and led to increased investment of motivational resources in work-life goals. In contrast, those who had not entered working life used compensatory secondary control: transfer of motivational resources away from work-life goals. In the experimental group, the proportion of participants who constructed work-life goals had increased from 78.9% (T1) to 84.7% (T3) at the ten-month follow-up. In sharp contrast, in the control group, the proportion of participants who constructed work-life goals decreased from 78.5% (T1) to 71.2% (T3). Thus, the following conclusion can be drawn: Due to (1) the strengthening of primary control, found mostly among the participants of the experimental group, and (2) the strengthening of compensatory secondary control found mostly among the participants of the control group, the intervention resulted in a growing differentiation in motivational orientation between the experimental and control groups. This conclusion is consistent with the previous findings on the relations between work-life goal construction, related appraisals and employment among young adults facing transition from vocational school to work (Nurmi et al., 2002; Nurmi & Salmela-Aro, 2002).

The results also showed that the boost in employment preparedness at the post-treatment assessment did not have a statistically significant direct effect on work-life goals at the ten-month follow-up (see Figure 4 p. 55). On the basis of this finding, I may draw two conclusions concerning the mediation process of the School-to-Work intervention: first, boosting employment preparedness may have increased the construction of work-life goals found at the follow-up through employment indirectly rather than directly. Second, as might be expected, the beneficial effect of the School-to-Work intervention on primary control, i.e. persistence in job search, did not last for the entire 10-month follow-up period among participants who had not started a job during that time. Of those who had not begun working at least 20 hours a week, 43% were continuing their studies (32% with study grants), 34% were unemployed job-seekers, 15% were performing military or civilian service, 5% were employed part time (less than 20 hours per week), and 4% were rearing children at home. It seems that of the students and those performing military or civilian service many had adopted compensatory secondary control strategies. They had transferred motivational resources from work-life

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goals to other life domains and presumably would attempt to enter the labor market at a later life stage. In addition to career development this compensatory strategy supports mental health: persisting commitment to unattainable and personally important goals has been found to result in risk for depression in general (for reviews see Brandtstädter & Rothermund, 2002; Brunstein, Schultheiss, & Maier, 1999) and also among vocational school graduates who have not gained employment but have problems in disengaging from work-life goals and to engaging in new ones in other life domains (Nurmi & Salmela-Aro, 2002).

From the stand point of developmental contextualism, the results of the School-to-Work study demonstrated the following proposition of developmental-contextualism: “The context does not simply produce alterations in development but that the context itself is influenced” by individual’s characteristics (Vondracek et al., 1986, p. 32, see Figure 1 p. 19). In the meditational model (Figure 4 p. 55) this notion appears in the following dynamic transaction: The STW intervention (context) → employment preparedness at T2 (individual) → employment status at T3 (context) → work-life goals at T3 (individual). Moreover, the timing of these transactions plays a critical role in cotextualism (Vondracek et al., 1986). In this case, the timing of the intervention deserves special attention, not least because Kiuru and her colleagues found that the immediate beneficial effects of a career intervention on career preparedness faded away within a few months (Kiuru, Koivisto, Mutanen, Nurmi, & Vuori, in press). Thus, it can be concluded that practitioners should conduct interventions targeted at boosting employment preparedness at the time when participants need employment skills most, i.e. have strong intentions to find employment.

In addition, the present dissertation examined possible mediating pathways leading from employment preparedness to depressive symptoms (see Figure 4 p. 55). In accordance with the previous research on the mediators of job search interventions (Vuori, & Vinokur, 2005), employment preparedness promoted employment which, in turn, reduced financial strain. Diminished financial strain was associated with lower depressive symptoms. Thus, results of the present studies indicate that financial strain associated with employment difficulties may be linked to depressive symptoms, particularly among recent graduates initially at risk for a mental disorder.

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In considering the effects of the intervention on work-life goals and on depressive symptoms, the existence of other important mediating variables, which were not examined in the present dissertation, would be worthy of attention in further studies. For example, the mediating role of financial strain in explaining the effects of employment on mental health does not appear to be as important among young people as it has been found to be among older unemployed persons. In contrast, the congruence of employment with education and personal career plans, which was not included in the mediator model of this dissertation, may play an important role in explaining the effect of employment on other long-term outcomes (e.g. Brasher & Chen, 1999; Feldman & Turnley, 1995; McKee-Ryan et al., 2005; Swanson & Fouad, 1999). This is because many new vocational school, college or university graduates often have problems in finding jobs that offer them opportunities to implement their vocational self-concepts and establish a chosen career (Sherer, 2004; Feldman & Turnley, 1995; Nurmi et al., 2002).

3.2 Effectiveness of the Towards Working Life group intervention

3.2.1 Long-term effects on career development and mental health

The distal goals of the Towards Working Life group career counseling method are promoting career choice and the transition to secondary studies and preventing the impairment of mental health associated with career difficulties among ninth graders completing basic education (Vuori et al., 2008). Consequently, a major aim of the present dissertation was to examine the effectiveness of the Towards Working Life group counseling method in improving career development and preventing mental health problems among 15–16 year-old adolescents facing the educational choice between upper secondary school and secondary level vocational studies.

The results did not show any statistically significant effect on educational track, that is, the choice between upper secondary school and secondary level vocational school. Moreover, of the total number of respondents at the one-year follow-up, only 11 adolescents had not initi-

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ated any studies. Thus, it was not possible reliable to calculate the results of the intervention on drop out from an educational pathway during the transition to upper secondary or secondary-level vocational education. However, although not examined in this dissertation, it is possible that the intervention had an effect on vocational choice among those who entered vocational school.

The results did not show any main effect on mental health. However, this study also examined the effects on mental health among high-risk adolescents who had learning difficulties or an elevated level of depressive symptoms. The results demonstrated that the Towards Working Life intervention fulfilled the distal goal related to the prevention of mental health problems. Participation in the intervention prevented depressive symptoms at the follow-up assessment among the students who reported elevated symptoms of depression at the baseline measurement. Moreover, the intervention prevented symptoms of school burnout among students who reported both elevated symptoms of depression and learning difficulties, e.g. dyslexia. Adolescents who have an elevated level of depressive symptoms can be classified among the group at risk for depression. In addition, learning disorders have been shown to be a general risk factor for mental health disorders (Patel et al., 2007). Thus, it can be concluded that the intervention had a preventive effect on school burnout among those who were in risk of depression or mental health disorders. From the stand point of prevention, this is an important finding because students' burnout may produce cumulative cycles with their depressive symptoms (Salmela-Aro et al, 2009). An important question that remains to be answered is why these high-risk adolescents benefited from the intervention. A possible answer is that participation in the TWL workshops helped these individuals navigate the transition to post-secondary studies. It is possible, therefore, that the mental health benefits of the workshops reflect better school adjustment in secondary studies compared to the control condition.

3.2.2 Short-term effects on career choice preparedness and task values

The proximal goals of the Towards Working Life group counseling method focus on improving adolescents' career choice preparedness and

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enhancing positive attitudes toward career planning. Because of this, the one aim of the present dissertation was to examine both the direct and indirect effects of the TWL group counseling intervention on career choice preparedness and career planning task values. In this dissertation the attitudinal aspect of career preparation was assessed by two career planning task values. In addition, this dissertation aimed at examining the causal relations between preparedness and task values in the career decision-making process.

As expected, the results showed that participation in the TWL workshops increased career choice preparedness. This result is consistent with the findings of previous studies on interventions boosting career self-efficacy (Betz, 2007; Gainor, 2006) and job-search preparedness among unemployed adults (Vuori & Vinokur, 2005). In the light of the self-efficacy-related propositions of the general social cognitive theory (Bandura, 1977, 1986, 2006), and its application to career context (Lent et al. 1994), this may mean that the strengthened preparedness of the participants to make career choices during the workshops may also have increased their investment of motivational resources in the exploitation of career exploration, planning and coping skills learned outside of the workshop (see Figure 1 p. 19).

In addition to preparedness, the TWL intervention also enhanced career planning task values. On the basis of the social cognitive theories, this may have strengthened participants' commitment to apply the skills they have learned (Ajzen, 1988; Bandura, 1977, 1986; Eccles & Wigfield, 2002; Lent et al. 1994), and thereby complemented the motivating influence of preparedness on their subsequent career choice behavior. As expected on the basis of the social cognitive career theory (Lent et al., 1994, see Figure 1 p. 19), career choice preparedness mediated the effect of the intervention on career planning task values (see Figure 5 p. 58). This finding is consistent with Bandura's (1977) theoretical proposition, also included in the social cognitive career theory (Lent et al., 1994), that efficacy beliefs shape outcome expectations (see Figure 1 p. 19). In view of the fact that the treatment outcomes were measured at the same time, it is important to note that career choice preparedness at the baseline assessment was associated with positive career planning task values at the post-treatment assessment. This latter result is important because it strengthened the conclusion on the direction of causality, i.e. that

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preparedness has a causal effect on attitudes rather than vice versa. This finding is also in accordance with the expectancy-value model of Eccles and her colleagues (e.g., Eccles & Wigfield, 2002) and adds to the previous debate on the causal relations between task values and competence beliefs (e.g., Arbona, 2000; Eccles & Wigfield, 2002) by supporting the assumption that adolescents rather value tasks in which they think they can succeed, than develop competencies in the tasks they value.

However, the results of the present dissertation did not show a direct effect of the TWL intervention on career planning task values (see Figure 5 p. 58). This was unexpected finding and against the hypothesis, which was derived from the social cognitive career theory (Lent et al. 1994, 1999)(see Figure 1 p. 19). It therefore seems that in order to have a positive influence on career planning task values, an intervention first needs to either increase career choice preparedness, or to target career planning task values more directly. This finding is especially interesting, as group discussions focusing on career planning task values were included in the intervention. In general, the results highlight the role of career choice preparedness as a proximal goal or primary mediator in activities aimed at promoting career development among adolescents through the building of career exploration, planning strategies, related coping behaviors and problem-solving skills. However, this is not refute the notion that the clarification of one's possible values and the benefits of career planning play an important role in career counseling; However, in order to reveal the possible roles of counseling techniques which are targeted directly at improving positive career planning attitudes or task values, further investigations are needed.

Overall, the main effects of the intervention on short-term learning outcomes may appear very small (partial eta squared = .004–.037). This provides only minimal support for the hypotheses that the Towards Working Life intervention strengthened career choice preparedness and related task values as proximal goals on the level of the sample in general or the whole age group. The intervention seemed to have had a stronger effect on career choice preparedness, particularly on self-efficacy beliefs, than on career planning task values. A possible reason for this may be that preparedness functioned as a primary mediator, and fully mediated the effect on task values. Another reason which may have reduced the effect on task values seems to have been a ceiling effect: Already before

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the intervention, adolescents rated their attitude toward career planning ($M=6.05$, $SD=.93$) notably more positively than their career choice preparedness ($M=4.74$, $SD=.89$) on a seven-point scale.

Small effect sizes may indicate that the career choice preparedness and career planning task values are the relatively stable outcome of a long-term development process which unfolds throughout the school years, including complex interactions between personal, social, and academic ability factors. For example, Eccles et al. (2004) found that sixth graders' college plans and visions predict their further performance in high school, which in turn influences their college attendance. Consequently, preparation for career choice at the level of the whole age group is not easily influenced by brief career counseling programs, timed just prior to the career decision-making situation. This supports Eccles, Lent, Palladino Schultheiss and their colleagues, who argue that the systematic support of career development should begin already during the elementary school years (Eccles et al., 2004; Lent et al., 1999; Palladino Schultheiss, 2005).

However, the present dissertation showed that experimental group and the baseline level of the outcome variable had a statistically significant interaction effect on four outcome variables. This interaction explained 8.5% of the variance of decision-making self-efficacy measured immediately after the intervention. The respective figures for inoculation against setbacks, attainment value and utility value were 3.2%, 2.7% and 2.7%. In other words, the students who were initially less confident in their ability to make career decisions benefited more from participation in the TWL intervention and showed a greater gain in their career-decision making confidence after the workshop than their peers who exhibited greater confidence at baseline. These interaction effects are in line with the results of studies III and IV. They showed that the TWL intervention had preventive effects on the depressive symptoms and school burnout of adolescents who reported elevated symptoms of depression or learning difficulties at the baseline assessment. Together these results support the assumption that those who are at risk for developing mental health or career problems benefit most from a group counseling program like TWL.

Although the documented effect sizes of the TWL intervention are relatively small, explaining not more than 8.5% of the variances of the outcomes, the effect is nevertheless important for two reasons. First, even relatively small starting effects can generate other effects that accumulate

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over time, resulting in a much greater impact on a wider range of outcomes several years later. For example, Schweinhart et al. (2005) showed that the initial, small effect of a preschool intervention resulted in large effects on educational, employment and other outcomes 35 years later, when the children who participated in the intervention entered early middle age. This may especially be the case for educational interventions, as educational outcomes have a wide range of ramifications that cannot be assessed in a short-term single study and may take several years to unfold before they can be assessed appropriately. A second reason is that such an effect, even a small one, may lead to research that identifies subgroups of high risk students among whom the effect is much greater. Through improvement in its design for high-risk students, such an intervention has the potential to produce much stronger effects.

4. STRENGTHS AND LIMITATIONS

The present dissertation is among the first attempts to examine the effectiveness of the career counseling of adolescents in the domains of the school-to-school and school-to-work transitions investigating mental health outcomes using a follow-up time frame long enough to capture whole transition periods. An obvious strength of this dissertation is the utilization of two randomized experimental designs with wholly cross-lagged longitudinal data. This allowed mediation effects to be examined using comprehensive structural models. Previous longitudinal research on school-to-work transition focusing on the relations of control beliefs, personal goals and employment have not included an experimental design and have lacked baseline measurements of employment (e.g. Nurmi et al., 2002; Nurmi & Salmela-Aro, 2002). Thus, the present study adds to the career counseling literature by offering powerful evidence on the causal relations between career and mental health outcomes in the long term, and on the role of employment preparedness as a proximal goal. In addition to these strengths, both experimental studies were based on relatively large samples, with low rates of dropouts and no-shows.

At the same time, it is important to be aware of certain limitations in the interpretation of these results among which the following with respect to the results of the School-to-Work Study (I and II) should be mentioned. Although this field experiment offers evidence on causal interpretations, we can not entirely exclude the possibility that the relationships between employment preparedness at post-treatment assessment and the subsequent outcome variables are influenced by a third variable, e.g., social ties and related resources (Jokisaari & Nurmi, 2005), that was not measured at baseline and cannot be controlled for in the analysis. In addition, the study participants came from western Finland, where the employment situation was rather difficult at the time. Thus the

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results can properly be generalized only to adolescents who are moving to working life in occupations or geographical areas where employment is difficult to obtain.

In spite of these limitations, the results of the School-to-Work study are probably a conservative estimate of the true effects of the group intervention and employment preparedness for two reasons. First, the participants of the control group were also assigned and they performed employment-relevant tasks that could enhance their employment preparedness, thereby decreasing the difference between their outcomes and the results of the experimental group. Second, due to the within-class random assignment of participants to the experimental and control groups, a significant amount of information on the intervention may have seeped from the experimental group to the control group. It is thus possible that employment preparedness also improved among the participants in the control group. Indeed, over the period of the experimental and control treatments the control group also improved in employment self-efficacy and inoculation against setbacks.

With respect to the results of the Towards Working Life Study (III, IV and V), the following limitations should be mentioned. First, instead of using standardized instruments developed for different educational and life-span contexts (e.g., Taylor & Betz, 1983) specific preparedness and task value scales were designed for the purposes of study IV. This is because career counseling outcome measures should be both understandable and meaningful to participants (Whiston, 2001) as well as compatible with the career decision-making process in the Finnish educational context (Ajzen, 1988). Although the reliability of the inoculation scale was relatively low, it is nevertheless acceptable given that the scale is one of the three subindices of the preparedness measure and that the analyses showed a very good fit to a one-factor model of career choice preparedness.

Finally, it is important to note that the Towards Working Life study did not reveal any possible mediating pathways from the immediate learning outcomes to the level of mental health outcomes in the long term. As already mentioned, this probable pathway may be indirect, including intermediating school adjustment variables, such as career indecision or congruence between a person and his or her chosen education (Betz & Smith 2002; Swanson & Fouad, 1999). For example, it is possible that

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the adolescents who participated in the workshop and suffered from learning difficulties learned to make an educational choice that better fitted their learning skills.

5. THEORETICAL IMPLICATIONS

First, the present dissertation adds to the career counseling literature by examining both mediating and long-term effects among adolescents. Previous randomized experiments examining the effectiveness of career counseling have mainly focused on post-treatment assessments. Exceptions in this line of research have been experiments among unemployed adults (e.g. Vuori & Silvonon, 2005; Vinokur, van Ryn, Gramlich, & Price, 1991; Vinokur, Schul, Vuori, & Price, 2000; Vuori & Vinokur, 2005). This means that our understanding of the effectiveness of career counseling among adolescents has largely been based on how effective the interventions in question have been in reaching their proximal goals. With respect to their long-term effects, the present study showed that career counselling can promote the implementation of vocational choice. This study also demonstrated that in addition to employment preparedness the School-to-Work intervention directly increased employment. Finally, in the overall process of school-to-work transition the influence of employment preparedness on all of the long-term outcomes occurred indirectly, through the employment outcomes. Thus, as a general conclusion, the results provide evidence that the transition from vocational school to work and mental health can be promoted by interventions which improve employment preparedness as a proximal goal.

In addition, the present dissertation addressed the following two questions: 1) Who benefit most? and 2) does career counseling influence mental health? The results of the School-to-Work Study suggested that the adolescents who had the intention to enter the labor market and constructed work-life goals took advantage of the opportunity to learn and practice employment strategies and benefited more than those who did not set work-life goals. Thus, this dissertation also adds to the

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previous literature by paying attention to the participants' acceptance of the transitional role (Caplan et al., 1997; see also Ng & Feldman, 2007) through applying intervention practices aiming at promoting career transitions. This is particularly true in settings where multiple institutional tracks in the labor market and in the educational system divide participants into different subgroups according to their transitional roles. From this perspective, positive effects are expected only if the goals of such interventions match well with the participant's transitional role and related personal goals.

From the stand point of prevention, the effectiveness of both interventions was directed at those who were at high risk for developing, or already had, depression or mental health disorder. The results showed that participation in the School-to-Work workshop prevented psychological distress and depressive symptoms among vocational school graduates who reported an elevated level of psychological distress before the intervention, while participation in the Towards Working Life workshop prevented depressive symptoms among ninth graders who reported elevated level of depressive symptoms. Moreover, the TWL intervention prevented school burnout among those who reported both an elevated level of depressive symptoms and learning difficulties before the intervention. According to the selection hypothesis, those who had an elevated level of psychological distress or depressive symptoms, and/or learning difficulties, had higher risk for a failed transition compared to the others (Paul & Moser, 2009). In conclusion, it seems that both interventions helped these high-risk adolescents in navigating their transition and this, in turn, prevented mental health problems.

The School-to-Work Study demonstrated that the mental health promotion effects of career counseling target a broader group of adolescents than those at risk for mental health disorders. Namely, the STW intervention had a positive main effect on quality of life across the research group, as indicated by successful implementation of a vocational choice and congruence between vocational self-concepts and work environment. This effect can be considered as mental health promotion (see e.g. Barry & Jenkins, 2007; WHO, 2001). It may truly be a beneficial effect because it creates a good foundation for adolescents' future career development and career satisfaction. An understanding of long-term effects, such as reported in this dissertation, is not meaningful only from the perspec-

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tive of theory construction but also from the viewpoint of policymakers and practitioners. As Brown and Ryan Krane (2000) concluded, policy makers have not been overly impressed by the effects of career practices on immediate outcomes, such as self-efficacy, task-values or career goals. Instead, they need to be convinced that career counseling makes a difference in the real life course of people.

6. PRACTICAL IMPLICATIONS

Next, I discuss the implications of the results of the present dissertation for intervention development and practices. The results showed that the significant effects of the examined career-related interventions were relatively small and, in part, detectable only among the specific subgroups. Thus, it would be worthwhile to consider how to improve the effectiveness of career counseling programs in the future. A more cost-effective approach than targeting a whole age group would be to target career interventions carefully at those who are expected most to derive benefits from them. First, in the case of the School-to-Work group method, workshops could be targeted at those vocational school graduates who have not found a congruent job at the final stage of their studies but still prefer employment as a near future goal. This goal could consider transition to full-time work as well as part-time work along with further studies.

Second, in the case of the Towards Working Life group method, a more cost-effective approach would be to implement the workshops as selective or indicated primary prevention programs (e.g. Barry & Jenkins, 2007). This means that the intervention should be targeted at those who have high-risk for problems in the area of mental health or career development. The results of the present dissertation suggest that an appropriate target group would consist of adolescents who exhibit deficient career choice preparedness, have learning difficulties, or have an elevated level of psychological distress or depressive symptoms. Moreover, the Towards Working Life group method has the potential to produce much stronger effects through developing the intervention design for high-risk students by paying attention to their special needs.

For example, training adolescents with learning difficulties requires considerably more time than is mentioned in the manuals of the STW

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and TWL group methods. Modifications in intervention designs are also needed. When modifying group activities for adolescents with learning difficulties, it is important to keep the planned activities and written materials as simple as possible. For example, participant's workbooks should exploit pictures and visual symbols and be written in plain language. In addition, some group discussion activities should be replaced with more functional exercises if possible. Finally, it should be noted that there is need to modify programs (e.g. time schedule, exercises, number of group trainers or counselors) according to the severity of participants' learning disabilities.

In addition, it would be important to apply the School-to-Work and Towards Working Life methods at different levels of schooling. For example, it would be useful to develop and examine modified versions of the STW method for tertiary-level educational institutions, such as polytechnics. However, in addition to employment strategies, applications of this kind should emphasize issues related to career planning. This is because the level of specification of educational pathways in tertiary-level institutions is lower than in secondary vocational schools. It would also be worthwhile to examine the effectiveness of the Towards Working Life methods among the graduates of upper secondary schools who are facing the transition to further studies.

It would also be worth paying attention to the active expert role that host organizations can play in locally implementing the tested career interventions (Price et al., 1998; see also Caplan et al., 1997; Price & Vinokur, 1995). Understanding of their effectiveness process and related critical components and mediators would guide adaptation of the examined programs among school personnel. Thus it can be recommended that modification of the experimental programs should be made with fidelity to the five essential components of the counseling framework. The components are the transition and career skill training, active teaching and learning methods, a supportive environment, inoculation against setbacks and skilled counselors or trainers. However, new modifications may include, for example, a set of new or adapted activities which take account of special needs of the high-risk adolescents or the above-mentioned different educational contexts of possible new applications.

In addition to their essential components, practitioners should note that the examined interventions included the following features. First,

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both interventions included a local co-operation model between schools and employment offices. This multi-professional co-operation between the education and employment authorities may have improved the effectiveness of the counseling programs. For example, this model may help counselors to convince students of their expertise and authority. The advantages of this co-operative model and related expert power are lost, for example, due to lack of financial resources, the course is led by one counselor or teacher. Second, both interventions were arranged as an intensive course. Obviously, an active learning process is best achieved and maintained by means of a carefully timed intensive course. Activating, creating and maintaining a supportive learning process in a group that gathers once a week will require starting from scratch each time. In addition, with a weekly group it is harder, for both the participant and the counsellors, to link earlier insights arising from discussions to new contexts. Finally, five critical ingredients defined by Brown and Ryan Krane (2000; Brown et al., 2003) may also offer a suitable perspective to consider effectiveness of planned activities. From this perspective an effective intervention includes (1) written analysis and exercises, (2) exploration of relevant career information, (3) individualized feedback, (4) role modeling related to career development, and (5) identifying and gaining access to contacts and building support.

7. PERSPECTIVES FOR FUTURE RESEARCH

From the perspective of the field researcher, much work remains to be done to clarify the true benefit of career counseling. Understanding of the effectiveness of career counseling requires further research with a long follow-up time frame in different transitional contexts. It would be important to follow up the effects of career choice counseling throughout the participants' or clients' educational career to their transition to working life. Another possibility would be to examine whether the career counseling aimed at promoting the transition from school to work has effects on young people's career establishment. As many researchers have already emphasized, this type of research would more fully reveal the effectiveness of career choice interventions on career development, career satisfaction, and mental health (e.g., Brown & Ryan Krane, 2000; Heppner & Heppner, 2003; Whiston, 2001).

These studies should also examine the roles that hypothesized mediating variables are assumed to play in the career development and well-being of intervention participants. The present dissertation stressed the role of preparedness, but the contribution of many complementary mediating variables, such as immediate outcome expectancies and task-values and long-term adjustment variables remains to be examined. The person-environment fit approach may provide useful framework for studying the role of post-transitional adjustment or congruence in the overall effectiveness process (e.g. Davis, 2005; Schmitt, Oswald, Friede, Imus, & Merritt, 2008; Swanson & Fouad, 1999). For example, it can be hypothesized that participants' fit with their work or educational environment or the vocation they have chosen may mediate possible long-term effects of a career intervention and improved preparedness on

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their future career development and mental health. Last but not least, this dissertation integrated the key constructs of the social cognitive career theory, group counseling framework, life-span approaches and mental health used in this study. This integrative framework would also be useful in future studies aimed at understanding relations of proximal and distal outcomes and contextual factors in the effectiveness process of career counseling.

8. CONCLUSION

Overall, the research conducted for the present dissertation suggests that it is possible to improve the long-term level of career development by means of social cognitive career counseling. Career counseling can also prevent mental health problems among those who are in risk for developing mental health disorders. The improvement of career preparedness as a proximal goal of such an intervention has a crucial role in production of these beneficial effects. These effects are expected to be relatively small. Finally, the results suggest that the effects can be strengthened by carefully targeting and further developing career interventions at those who benefit most.

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The main aim of the present dissertation was to examine the effects of two group methods on adolescents' career development and mental health. The results suggest that the long-term effects of career counseling among adolescents are relatively small but significant and some of these effects appear only among sub-groups. Consequently, a more cost-effective approach than targeting at whole age group would be the targeting career interventions carefully at those who benefit most.

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ISBN ISBN 978-952-261-016-4 (paperback)
ISBN 978-952-261-017-1 (PDF)
ISSN-L 1237-6183
ISSN 1237-6183

Cover picture: Patti Gray

ISBN 978-952-261-016-4



9 789522 610164