

Elina Marttinen

# Deciding on the Direction of Career and Life

Personal Goals, Identity  
Development, and Well-Being  
during the Transition to Adulthood



Elina Marttinen

Deciding on the Direction  
of Career and Life

Personal Goals, Identity  
Development, and Well-Being  
during the Transition to Adulthood

Esitetään Jyväskylän yliopiston kasvatustieteiden ja psykologian tiedekunnan suostumuksella  
julkisesti tarkastettavaksi yliopiston Agora-rakennuksen auditoriossa 3  
kesäkuun 17. päivänä 2017 kello 12.

Academic dissertation to be publicly discussed, by permission of  
the Faculty of Education and Psychology of the University of Jyväskylä,  
in building Agora, auditorium 3, on June 17, 2017 at 12 o'clock noon.



UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2017

# Deciding on the Direction of Career and Life

Personal Goals, Identity  
Development, and Well-Being  
during the Transition to Adulthood

JYVÄSKYLÄ STUDIES IN EDUCATION, PSYCHOLOGY AND SOCIAL RESEARCH 584

Elina Marttinen

Deciding on the Direction  
of Career and Life

Personal Goals, Identity  
Development, and Well-Being  
during the Transition to Adulthood



UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2017

Editors

Timo Suutama

Department of Psychology, University of Jyväskylä

Pekka Olsbo, Ville Korhakangas

Publishing Unit, University Library of Jyväskylä



Työsuojelurahasto  
Arbetskyddsfonnen  
The Finnish Work Environment Fund

Cover picture: "Life is like a box of chocolate, you never know what you're gonna get" Forrest Gump. Photo by Teemu Kuusimurto.

Permanent link to this publication: <http://urn.fi/URN:ISBN:978-951-39-7094-9>

URN:ISBN:978-951-39-7094-9

ISBN 978-951-39-7094-9 (PDF)

ISBN 978-951-39-7093-2 (nid.)

ISSN 0075-4625

Copyright © 2017, by University of Jyväskylä

Jyväskylä University Printing House, Jyväskylä 2017

## ABSTRACT

Marttinen, Elina

Deciding on the direction of career and life: Personal goals, identity development, and well-being during the transition to adulthood

Jyväskylä: University of Jyväskylä, 2017, 76 p.

(Jyväskylä Studies in Education, Psychology and Social Research

ISSN 0075-4625; 584)

ISBN 978-951-39-7093-2 (nid.)

ISBN 978-951-39-7094-9 (PDF)

Humans make efforts to manage their lives, and they do this by setting goals and making decisions. When they commit to their decisions, they construct their identity. This research aimed to study young people's personal goal contents and appraisals, and how these constructs were related to identity and career identity development and subjective well-being. The theoretical basis of this research comprised the life-span model of motivation (Nurmi, 2004; Salmela-Aro, 2009), the conceptualisation of phase-adequate engagement (Dietrich, Parker, & Salmela-Aro, 2012), and the dual-cycle model of identity development (Luyckx, Goossens, Soenens, & Beyers, 2006; Luyckx et al., 2008). The data for the study stemmed from the ongoing Finnish Educational Transitions Studies -research programme (FinEdu, 2013). Two samples were used. The results showed that, at age 17, adolescents had several personal goals regarding the future of their education, work, social relationships and income (Study I). Adolescents who mentioned self-related ruminative types of personal goals had higher burnout and more symptoms of depression as well as lower life satisfaction and self-esteem compared to other adolescents. Further, the results showed that a considerable number of young adults (40%) had a diffused or moderately diffused identity profile (Study II). The Diffused diffusion profile was associated with more self-related personal goals and less social relationship goals and with poor well-being. Finally, the results (Study III) showed that career goal success expectations, effort, stressfulness in adolescence and longitudinal changes within these constructs predicted later career identity development, at age 26. Career goal success expectations and effort strengthened throughout adolescence and young adulthood and was associated with adaptive career identity development. Stress related to career goals increased over time, and it predicted maladaptive career identity development. Personal goal contents and processes were related to identity development and well-being. The results revealed a darker side among a significant number of the young people who had self-focused ruminative goals, a diffused identity profile, and ruminative identity processes resulting in poor well-being. Overall, personal goal contents and appraisals proved to be practical tools in assessing and supporting identity development and well-being among young people.

*Keywords:* adolescents, young adults, personal goals, career goals, identity development, career identity, well-being, developmental regulation

<b>Author's address</b>	Elina Marttinen Department of Psychology University of Jyväskylä, Finland
<b>Supervisors</b>	Professor Katariina Salmela-Aro, PhD Department of Psychology University of Jyväskylä, Finland  Julia Dietrich, PhD Department of Educational Psychology University of Jena, Germany  Professor Markku Partinen, MD, PhD Helsinki Sleep Clinic Vitalmed Research Centre, Finland  Taina Hätönen, MD, PhD Finnish Student Health Service The HUH Psychiatry Centre, Finland
<b>Reviewers</b>	Professor Wim Beyers, PhD Department of Developmental, Personality and Social Psychology University of Ghent, Belgium  Professor Hannu Rätty, PhD School of Educational Sciences and Psychology University of Eastern Finland
<b>Opponent</b>	Professor Wim Beyers, PhD Department of Developmental, Personality and Social Psychology University of Ghent, Belgium

## TIIVISTELMÄ (FINNISH ABSTRACT)

Marttinen, Elina

Elämän- ja työuravalinnat: Nuorten ja nuorten aikuisten henkilökohtaiset tavoitteet, identiteetin kehitys ja hyvinvointi

Jyväskylä: University of Jyväskylä, 2017, 76 p.

(Jyväskylä Studies in Education, Psychology and Social Research

ISSN 0075-4625; 584)

ISBN 978-951-39-7093-2 (nid.)

ISBN 978-951-39-7094-9 (PDF)

Ihminen pyrkii hallitsemaan elämäänsä asettamalla itselleen tavoitteita ja tekemällä valintoja. Kun hän sitoutuu päätöksiinsä, hän rakentaa identiteettiään. Tämän tutkimuksen tavoitteena oli selvittää nuorten ja nuorten aikuisten tavoitteita ja tavoitteisiin pyrkimistä sekä sitä, kuinka tavoitteet liittyvät identiteetin kehittymiseen, ja tarkemmin työidentiteettiin sekä henkilökohtaiseen hyvinvointiin. Työn teoreettinen viitekehys yhdistää motivaation elämänkaarimallia (Nurmi, 2004; Salmela-Aro, 2009), elämäntavoiheeseen tarkoituksenmukaisten sitoutumisten mallia (Dietrich, Parker & Salmela-Aro, 2012) sekä identiteettikehityksen kaksoissyklimallia Luyckx et al., 2006, 2008). Tutkimuksessa käytettiin Finnish Educational Transitions Studies (FinEdu) -pitkittäistutkimusprojektin (FinEdu, 2013) aineistoa. Tulokset osoittivat, että 17-vuotiaana nuorilla oli useita henkilökohtaisia tavoitteita liittyen heidän koulutukseensa, työhönsä, sosiaalisiin suhteisiinsa ja varallisuuteensa (osatutkimus I). Nuorilla, jotka mainitsivat itsen liittyviä murehtivan sävyisiä henkilökohtaisia tavoitteita, oli enemmän koulu-uupumusta ja masennuksen oireita sekä alempi elämäntyytyväisyys ja itsetunto verrattuna muihin nuoriin. Tulosten mukaan merkittävällä osalla (40 %) nuorista aikuisista oli hajanainen ja selkiintymätön tai osittain selkiintymätön identiteettiprofiili (osatutkimus II). Hajanainen ja selkiintymätön identiteetti oli yhteydessä runsaisiin itsen liittyviin henkilökohtaisiin tavoitteisiin ja vähäisiin sosiaalisten suhteiden tavoitteisiin sekä kohonneisiin opiskelu-uupumukseen ja masennusoireisiin. Lopuksi tulokset (osatutkimus III) osoittivat, että uratavoitteeseen liittyvät menestysodotukset, uratavoitteen eteen ponnistelu ja uratavoitteeseen liittyvä stressi olivat yhteydessä myöhempään työidentiteetin kehitykseen. Tarkemmin sanoen menestysodotukset ja ponnistelu ennustivat suotuisaa identiteettikehitystä kuten työurarakaisuihin sitoutumista ja adaptiivista uravaihtoehtojen etsintää. Opiskelu- ja työuran stressaavuus sitä vastoin ennusti puutteellista identiteettikehitystä ja murehtivaa uravaihtoehtojen hakemista. Tulosten perusteella ja teoreettisten mallien mukaisesti sekä tavoitteiden säätely että ura- ja elämänkehityksen jatkuva muokkaus auttavat nuoria rakentamaan identiteettiään. Varjopuolena tutkimus toi ilmi, että merkittävällä osalla nuorista ihmisistä on itsen ja minään liittyviä murehtimissävyisiä tavoitteita, selkiintymätöntä identiteettiä sekä identiteetin etsinnän murehtimista. Nämä tekijät olivat yhteydessä nuorten pahoinvointiin. Kaiken kaikkiaan henkilökohtaiset tavoitteet osoittautuivat käytännöllisiksi apuvälineiksi, kun arvioidaan ja tuetaan nuorten ja nuorten aikuisten identiteetin kehittymistä sekä hyvinvointia.

*Avainsanat:* nuoret, nuoret aikuiset, henkilökohtaiset tavoitteet, uratavoitteet, identiteetin kehitys, työidentiteetti, koettu hyvinvointi, kehityksen säätely

## ACKNOWLEDGEMENTS

I have been thinking about whether the completion of my doctoral studies is an end or a beginning. Even though this might be the end of 30 years of schooling, I also consider this point to be a beginning and I am eager to find out what will come next. For getting here, I am exceedingly thankful to numerous people who have contributed to this work, process and its realisation.

I wish to express my deepest gratitude to my supervisors, who have offered me the possibility to learn about science, research, methods, and applications: Prof. Katariina Salmela-Aro, Julia Dietrich (PhD), Prof. Markku Partinen, and Taina Hätönen (PhD). I have been very fortunate to have these superb experts helping me. I am grateful to Katariina Salmela-Aro for believing in me, teaching me countless issues on doing research and including me in her projects and broad network. Thank you for giving me all the time I have needed, and thank you for sparking my motivation. I am indebted to Julia Dietrich for helping me with methodological issues and offering me an inspiring standard for doing research in developmental psychology. Thank you for your dedication and support. I am grateful to Markku Partinen – the hardcore scientist – for every bit of advice and ideas that we have exchanged during these years. Every word has been worth gold, inspiring me for a long time. I am obliged to Taina Hätönen for her mentoring and improving my understanding of the practical applicability of the research findings. Thank you for being my role model in combining clinical work and research.

I have been fortunate to have outstanding professors to pre-examine my thesis. I warmly thank Prof. Hannu Rätty for his insightful and valuable comments. I also wish to express my deepest gratitude to Prof. Wim Beyers for the pre-examination of the thesis and accepting the role of opponent in the public examination of the dissertation. I passionately value Prof. Beyers' research on different developmental perspectives on adolescence and young adulthood as well as his distinguished expertise in research methodology. I am profoundly thankful for Prof. Beyers' thorough and careful remarks on the thesis at the pre-examination. I feel honoured to be able to hear more about his thoughts and understanding relating to my research.

This research would not have been possible without the dedication of the young people that have shared their personal goals, thoughts and feelings year after year, answering the questionnaires that have been sent to them during the Finnish Educational Transitions (FinEdu) studies. I met personally with around 600 of the vocational school students that participated in Study I. Special thanks belongs to you for galvanizing me to do research and work with youth. The Academy of Finland and Jacobs Foundation have been funding the FinEdu studies and at the same time also my work as a research assistant, project researcher and doctoral student. I am grateful to everybody who has enabled this extensive longitudinal data set.

Furthermore, I wish to express my acknowledgements for the personal grants that I have received during my doctoral studies. I am grateful to the Otto

A. Malm foundation, the Finnish Work Environment Fund and the University of Jyväskylä for supporting me with grants during the process, particularly in the completion phase of the thesis. Study III was analysed during my research visit to the Katholieke Universiteit Leuven in Belgium. I wish to express my gratitude to the University of Jyväskylä for giving me the research visit grant and enabling me to attain that remarkable experience. I am grateful to the National Doctoral Programme of Psychology for offering me an affiliate postgraduate position and the memorable meetings with the dedicated young colleagues. The University of Helsinki (Faculty of Educational Sciences) and the University of Jyväskylä (Faculty of Social Sciences and Faculty of Education and Psychology) kindly provided facilities and encouraging communities. In the University of Jyväskylä's Department of Psychology I would like to particularly thank the head, Prof. Jari-Erik Nurmi, for being a thoughtful leader and inspiring researcher. Further, I wish to express my gratitude to the pedagogical head of the department and scientific editor Timo Suutama for his skilful and precise work with the layout of this thesis, and to Karl-Heinz Rademacker for his outstanding proofreading and the ability to read my mind during the finalising process.

I also want to express my special thanks to Asst. Prof. Koen Luyckx of the Katholieke Universiteit Leuven for warmly hosting me in Belgium during my research visit, and thank you for committedly co-authoring Study III with me. I thank you for being a hardworking, highly organised and being a benevolent role model for me.

My research colleagues, an extraordinary group of highly talented, diligent and passionate scholars, have offered me joyful peer support. I want to particularly thank Mette Ranta, Heta Tuominen, Florencia Sotheix, Julia Möller, Rasmus Mannerstöm, Janica Vinni-Laakso, Annamari Heikkilä, Jaana Viljaranta, Sointu Leikas, Noona Kiuru, Riikka Heikkilä and Lotta Tynkkynen. Thank you, Mette, for your warm support and advice throughout these years, your help, and your splendid company during our trips. Thank you, Heta, for still being my role model.

Nyyti, an association for students' well-being, has offered me a home base for understanding mental health promotion, for taking the first steps in my professional career, and for research. I wish to express my deepest gratitude for this exceptionally modern workplace, where the employee can seek and find ways to flourish. I wish to thank Nyyti's former executive director, Helena Partinen, for being present when my dream of gaining a PhD degree was formulated. Furthermore, I am indebted to Nyyti's present executive director, Minna Savolainen. Thank you for your wisdom, care and mentoring.

Moreover, I want to thank all my friends. I have exceptional friends from Ressun Lukio upper secondary school. Thank you all for sharing our development from adolescence to adulthood. Specifically, I wish to thank Janne Öberg for being a steadfast friend. I also have brilliant friends from my Psychology graduate years. Thank you all for inspiring me regarding psychology, as well as for our off-topic discussions. Particularly, I want to thank Sari Niemi and Sanna Lehikoinen for their peer support in combining work and family.

Importantly, I want to express my deepest gratitude to my family and my in-law family for supporting me and for believing in me. I sincerely thank my mother Anneli and father Ilkka Riuttala, as well as my sister Sirpa Riuttala and her family. Further, I warmly thank my in-law family Liisa and Esa Marttinen as well as Anu-Elina Autio and her family. Warm thanks also belong to Teemu Kuusimurto, for the thesis cover picture.

Finally, I want to thank my husband, Jussi, for giving me support as well as cordial critique. Thank you for coming with our kids to all be together in Belgium; and I especially give you my deepest thanks for taking part in my most important life decisions - I love you! Finally, I want to thank my dearest children - Nella, Eino and Amos - who were all born during this doctoral process. I dedicate this work to you, my family. You have given my life direction!

Elina Marttinen  
Helsinki, 1 May 2017

## LIST OF ORIGINAL PUBLICATIONS

- I Marttinen, E. & Salmela-Aro, K. (2012). Personal goal orientations and subjective well-being of adolescents. *Japanese Psychological Research*, 54, 263–273.
- II Marttinen, E., Dietrich, J., & Salmela-Aro, K. (2016). Dark shadows of rumination: Finnish young adults' identity profiles, personal goals and concerns. *Journal of Adolescence*, 47, 185–196.
- III Marttinen, E., Luyckx, K., Dietrich, J., & Salmela-Aro, K. (2017). Career goal appraisals throughout adolescence and young adulthood: Developmental trajectories and associations with career identity. Submitted manuscript.

Taking into account the instructions and comments made by co-authors, the author of the thesis conducted the analyses and wrote the reports of the three publications, independently.

## **FIGURES**

FIGURE 1	The Finnish education system.....	33
----------	-----------------------------------	----

## **TABLES**

TABLE 1	Data structure of sample 2.....	38
TABLE 2	Summary of variables and statistical methods.....	39
TABLE 3	Personal goal and concern categories and examples.....	40

## TABLE OF CONTENTS

ABSTRACT

TIIVISTELMÄ (FINNISH ABSTRACT)

ACKNOWLEDGEMENTS

LIST OF ORIGINAL PUBLICATIONS

FIGURES AND TABLES

TABLE OF CONTENTS

1	INTRODUCTION .....	15
1.1	Transition to adulthood and developmental regulation.....	15
1.1.1	The life-span model of motivation .....	16
1.1.2	Identity development theories .....	17
1.1.3	Career regulation.....	18
1.1.4	Developmental tasks in adolescence and young adulthood ....	19
1.2	Personal goal pursuit .....	19
1.2.1	Personal goal contents .....	20
1.2.2	Personal goal appraisals.....	20
1.3	Identity development.....	23
1.3.1	Identity statuses.....	24
1.3.2	Career identity development.....	26
1.4	Phase-adequate engagement.....	27
1.5	Correlates of subjective well-being .....	27
1.5.1	Personal goals and subjective well-being.....	29
1.5.2	Identity development and subjective well-being .....	29
1.6	Rumination in personal goal pursuit and identity formation.....	30
1.7	Person-oriented research .....	32
1.8	The Finnish education system .....	32
1.9	Aims of the research.....	34
2	METHOD .....	37
2.1	Participants .....	37
2.2	Variables and statistical methods.....	38
2.3	Personal goal content analysis.....	40
2.4	Person-oriented methods.....	41
3	OVERVIEW OF THE ORIGINAL STUDIES .....	42
3.1	Study I .....	42
3.2	Study II.....	43
3.3	Study III.....	44
4	DISCUSSION .....	45
4.1	Profiles in adolescent and young adult development.....	46
4.1.1	Personal goal profiles .....	46
4.1.2	Identity profiles .....	48

4.2	Personal career goal appraisals associate with career identity development.....	52
4.3	Integrating models of personal goals and identity development.....	54
4.4	Practical implications .....	56
4.5	Limitations and future direction .....	59
4.6	Conclusions .....	61
	YHTEENVETO (SUMMARY).....	63
	REFERENCES.....	66
	ORIGINAL PAPERS	

# 1 INTRODUCTION

This research was about adolescents' and young adults' psychological development during their transition to adulthood. At the beginning of the study, these young people were 16 or 17 years old and living in Finland. They were followed until they turned 26 years of age. During this ten-year period, they went through several career- and life-related transitions. These transitions were, for example, completing compulsory school, continuing with secondary education, and, for some, proceeding to the tertiary level and then transitioning to working life. Also, some had gap years and some experienced unemployment. During these years, they formulated personal goals, explored various options and made active attempts to make decisions regarding their life direction and to commit to a life path that they felt to be important.

The aim of the research was to study young people's personal goal contents and goal appraisals, how these motivational constructs relate to identity development and specifically career identity processes, and how personal goals and identity associate to subjective well-being. This research utilised the life-span model of motivation, which states that developmental regulation processes of channelling, choice, co-regulation and compensation are demonstrated in young people's personal goal pursuit (Salmela-Aro, 2009). Using a person-oriented approach, profiles of young people's personal goal contents as well as profiles of identity development were formulated as part of the research. And using a variable orientation, the associations between those profiles and well-being were investigated, and further on the processes of career goal appraisal and their associations with identity development were examined.

## 1.1 Transition to adulthood and developmental regulation

According to earlier findings, the timing of the completion of the developmental tasks associated with transition to adulthood has become unclear (Seiffge-Krenke, & Gelhaar, 2008), often resulting in feelings of immaturity (Galambos,

Turner, & Tilton-Weaver, 2005) and a sense of being on the way to adulthood but not there yet (Arnett, 2006). It has been proposed that adolescents and young adults need to undertake a psychological task to individually construct a stable and viable identity (Schwartz, Côté, & Arnett, 2005), and to direct their own development as well as negotiate their passage to adulthood, by setting future-oriented goals, exploring different identity alternatives and committing to a certain life path (Côté & Levine, 2002; Nurmi, Poole, & Seginer, 1995).

Life transitions of young people are particularly visible in career development. During the years from late adolescence, from around age 16, and throughout young adulthood many career-related transitions take place. In Western societies, basic compulsory education is completed when finishing Grade 9 in lower secondary school (junior high school), and young people can then choose to continue their education either in upper secondary school (senior high school) or vocational school. If students continue their studies beyond the compulsory education, they can later graduate from upper secondary school (senior high school) or proceed to tertiary education at university or enter working life, where they may face unemployment.

Different theories conceptualise a range of regulative behaviours before, during and after transition points. These behaviours include efforts to establish goals and identity, efforts to pursue the goals and express one's identity, and efforts to renegotiate goals and identity commitments where the individual faces barriers and difficulties (Dietrich, Parker, & Salmela-Aro, 2012).

### 1.1.1 The life-span model of motivation

The developmental regulation theory of the life-span model of motivation (Salmela-Aro, 2009) proposes that age-graded environments *channel* the timing and structure of developmental trajectories. The environment provides a space of opportunity where individuals construct their motivated personal goals (Cantor et al., 1991; Nurmi, 1993; Salmela-Aro, 2001). It is expected that in this environment, successful development requires striving for a relative maximisation of gains and minimisation of losses (Baltes, 1997). Further on, young people actively direct their development by selecting and pursuing personal goals and exploring identity-relevant information (Nurmi, 2004). This *choice*-making process involves several different psychological mechanisms, including setting personal goals, making decisions and establishing commitment (Salmela-Aro, 2009).

Social context, especially important other people, impact an individual's developmental regulation. The life-span model of motivation proposes that people attain their goals, explore their alternatives and regulate their behaviour based on *co-agency*. Finally, the life-span model of motivation features a *compensation* or adjustment process, where personal goals and strategies are adjusted and commitments reconsidered based on feedback concerning developmental outcomes. This compensation process supports successfully coping with future challenges along the individual's life path (Heckhausen, 1999) and maintaining subjective well-being.

### 1.1.2 Identity development theories

In addition to developmental regulation theories, identity development theories have also conceptualised processes underlying the developmental transition from adolescence to adulthood. Identity is one of the most frequently studied constructs in social sciences (Côté, 2006), and thus, a lot of diversity exists in theories approaching identity. In their review, Vignoles, Schwartz and Luyckx (2011) introduce at least three fundamental considerations that affect the understanding of identity as a phenomenon. First, identity can be seen as either a personal, relational or collective phenomenon. Second, it has been theorised to be either fluid and changing all the time or rather stable. Third, identity may be either personally constructed, socially constructed, or subsequently discovered. These factors may also appear in various combinations.

Consequently, the research advanced the identity construct as a *personal, changing, and personally constructed* phenomenon that relates to life paths and decisions. The personal identity definition originated in Erik H. Erikson's (1959, 1968) ego-identity theory. According to Erikson, personal identity includes aspects of the self, such as career goals, that explicitly identify a person as an individual, and the experience of self helps one to distinguish oneself from other people (Schwartz, 2001). Neo-Eriksonian research has been responsible for the detailed operationalisation and conceptualisation of identity constructs. The specific neo-Eriksonian model utilised here is the dual-cycle model of identity development (Luyckx et al., 2006, 2008). This model advances the developmental process of exploring and committing to developmental tasks as well as other important issues during adolescence and young adulthood. The dual-cycle model of identity development proposes that generic and domain-specific (Luyckx et al., 2014) identity developments unfold as two complementary cycles, namely, *identity formation* and *identity evaluation*. During these formation and evaluation processes, purposeful explorations of various alternatives take place, commitments to sets of convictions and values are formed, and, finally, a re-evaluation of the choices and an assessment of their likely effectiveness is processed (Luyckx et al., 2008). This model also defines a maladaptive identity development process in which individuals are troubled by their inadequate progress toward important goals and by asking themselves the same questions over and over again they end up with uncertainty and worry (Beyers & Luyckx, 2016; Luyckx et al., 2008, 2014).

Other identity development models exist, such as Bosma and Kunnen's (2001) as well as Kerpelman, Pittman and Lamke's (1997) models, but the process model of identity formation (Crocetti, Rubini, & Meeus, 2008; Crocetti, Rubini, Luyckx, & Meeus, 2008) is presented here in addition to the dual-cycle model of identity development. Also, this process model approaches the identity construct as being personal, changing, and personally constructed. The process model of identity formation proposes that identity is formatted in three processes: commitment, in-depth exploration, and reconsideration of commitments. More specifically, commitment refers to the making a choice in an identi-

ty-relevant area and the identification with that choice. In-depth exploration involves active questioning and weighting of various identity alternatives, especially in regard to commitments already made, and it has been shown to have both adaptive and maladaptive sides. In-depth exploration becomes troublesome if adolescents start to over-evaluate their commitments and become doubtful about the choices. Finally, the reconsideration of commitments refers to the comparison made between current commitments and alternatives representing a crisis-like aspect of identity formation, and it may feature an endeavour to change the commitments that are no longer satisfactory.

### 1.1.3 Career regulation

Domain-specific theories of career development have also addressed the transitional issues of career development that can arise during adolescence and young adulthood, and the possible processes involved. The career construction theory (Savickas, 2005) proposes that adaptive career development consists of an awareness of career-related developmental tasks, active decision making, the exploration of one's thoughts and career opportunities, and the establishment of career confidence. The career construction theory highlights the active role of a person in constructing his or her own career and the adaptive changes that need to take place during the development (Savickas, 1997).

Further, Porfeli and Lee (2012) have elaborated a process-oriented model of vocational identity development that comprises three tasks: career exploration, career commitment, and career reconsideration. This process model combines elements of the dual-cycle model of identity development (Luyckx et al., 2008) with Crocetti and Meeus' model (Crocetti et al., 2008), and particularly elaborates the career reconsideration process (Porfeli et al., 2011). More specifically, career exploration proceeds from a broad exploration of possible vocational identities to a more in-depth exploration of core aspects of the self (Porfeli, 2008). These aspects of self are interests related to suitable career opportunities, values and personal goals. Career commitment involves making a choice and then attaching the self to that choice. Finally, career reconsideration refers to the re-examining of one's current commitments and making an effort to compare available alternatives to further specify a career choice or change career choices. This reconsideration process is particularly important in times of dynamic or continuous change in the world of work and career environments. Career reconsideration is proposed to have two dimensions, or two sides: career-related commitment flexibility and commitment self-doubt (Porfeli & Lee, 2012; Porfeli & Savickas, 2012). Commitment flexibility means sensitivity and openness to changes in occupational interests and jobs, while commitment self-doubt refers to feelings of anxiety and uncertainty concerning career planning (Porfeli & Savickas, 2012).

#### 1.1.4 Developmental tasks in adolescence and young adulthood

The research was based on the proposition that personal goals reflect the developmental tasks of adolescents and young adults (e.g., Heckhausen, Wrosch, & Schulz, 2010; Nurmi, 1992; Salmela-Aro, 2009). In his time, Havighurst (1948) conceptualised human development in terms of a series of early developmental tasks that must be solved and the process of successfully solving these tasks leading to happiness and success in later tasks.

Leading up to and during adolescence, the proposed eight developmental tasks are: accept one's body, adopt a masculine or feminine social role, achieve emotional independence from parents, develop close relationships with peers of the same and opposite gender, prepare for an occupation, prepare for marriage and family life, establish a personal value or ethical system, and achieve socially responsible behaviour.

From young adulthood onward, eight further proposed developmental tasks are: develop a stable partnership, learn to live with the partner, establish an independent household, establish a family, care for a family, start an occupation or career, become integrated in a social group, and assume civic and social responsibility. This conceptualisation of developmental tasks integrates different life domains and stresses the importance of individual activity in completing these tasks.

## 1.2 Personal goal pursuit

Personal goals are internal representations of desired states (Austin & Vancouver, 1996). In the research, personal goals were examined with a focus on content and motivation. The pursuit of goals is a key element of cognition, action and motivation in human life. Several concepts are used in studying and describing goal pursuit: current concerns (Klinger, 1975), personal projects (Little, 1983; Little, Salmela-Aro, & Phillips, 2007), life tasks (Cantor et al. 1987), personal strivings (Emmons, 1986), and possible selves (Oyserman & Markus, 1990; Markus & Nurius, 1986).

More specifically, the research utilised two theoretical personal goal concepts: personal projects (Little, 1983; Little et al., 2007) and current concerns (Klinger, 1975; Klinger & Cox, 2011). In their conceptualisation, personal projects are formulated very explicitly (Little, 2014), while current concerns (Klinger & Cox, 2011) are more latent and implicit processes toward particular, yet explicitly unformulated, personal goals. People can mentally represent their personal goals in different ways. Personal goals can be positive desired states (e.g., "Apply for university"), or negative, often more implicit, worries (e.g., "My relationship won't last"); all in all, these concepts describe the either explicit or implicit representation of a desired state and are thus referred to as *personal goals* hereafter.

In line with Little's (2015) conceptualisation of personal projects, personal goals are extended over time, since they have a beginning, a middle and an end, and they include sets of actions. According to this conceptualisation, personal projects are personally salient as they involve consciously guided behaviour and afford some volitional investment. Moreover, personal projects are always formed and conducted within a context and they range from consisting of constitutive elements of everyday life to being prospective ventures that shape one's future. Finally, personal projects as well as personal goals are integrative transactional units that are situated between the person and the context, and they are the carrier units of the exchange between the person and the context (Little, 2000; Little, 2015). This makes personal goals an interesting concept in relation to which to examine young adults' life decisions and meaning making.

### **1.2.1 Personal goal contents**

Personal goal contents are often conceptualised either in regard to basic needs (Deci & Ryan, 2000; Emmons, 1986, 1997) or their aim in the real world (Little & Chambers, 2011; Nurmi, 1991; Ranta, Dietrich, & Salmela-Aro, 2014; Salmela-Aro, 2001). According to self-determination theory, it is critical to consider the degree to which people, in their goal pursuit, are able to satisfy their basic psychological needs of autonomy, competence and relatedness (Deci & Ryan, 2000). On the other hand, researchers conceptualising personal goals in terms of real-world aims propose that the contents are tied to developmental tasks arising during different phases of life (Heckhausen, Wrosch, & Schulz, 2010; Nurmi, 1992; Salmela-Aro, 2009). Research has shown that if young people's goal contents are related to their developmental tasks in the transition to adulthood, it benefits their well-being (Salmela-Aro, Aunola, & Nurmi, 2007; Salmela-Aro et al., 2012), lowers their stress (Dietrich, Jokisaari, & Nurmi, 2012), and promotes domain-specific attainments such as a progressing career and strong relationships (Ranta et al., 2014).

Nonetheless, people also have personal goals that are self-focused (Salmela-Aro & Nurmi, 1997; Salmela-Aro, Pennanen, & Nurmi, 2001). The contents of these self-focused personal goals reflect active striving to work out the meaning of one's life, to change or improve one's sense of self or identity, or to cope or adjust (Salmela-Aro et al., 2012). Thus, self-focused personal goals are different from personal goals related to developmental tasks or basic psychological needs. Self-focused goal contents are found to reflect ruminative worrying, which has been found to relate to stress, low self-esteem, depression and exhaustion (Salmela-Aro, 1992; Salmela-Aro et al., 2001, 2007).

### **1.2.2 Personal goal appraisals**

Apart from personal goal content research based on above described qualitative methodology, personal goals are also studied quantitatively with subjective goal appraisals. Goal appraisals reflect individual differences in overall motivation, beliefs and values (Nurmi, Salmela-Aro, & Aunola, 2009). In the process of

personal goal formulation, the individual compares and explores his or her motivation in relation to current opportunities and challenges, and makes commitments to personal goals (Nurmi, 2004; Salmela-Aro, 2009).

Goal appraisals are generally carried out with respondents first stating their personal goal, typically regarding a specific life domain such as career, relationships or health, after which they are asked to rate their goal along several appraisal dimensions (Austin & Vancouver, 1996; Nurmi et al., 2009; Salmela-Aro, 2009). Goal appraisals are conceptualisations of the goal processes involving behaviours and cognitions related to striving toward multiple goals (Austin & Vancouver, 1996). Goal processes bridge gaps between cognition and environment, cognition and physiology, and cognition and action. Originally, Little (1983) proposed 17 different goal appraisal dimensions: importance, enjoyment, difficulty, visibility, control, initiation, stress, time adequacy, outcome, self-identity, other's view, value congruency, positive impact, negative impact, progress, challenge, and absorption.

Later on, researchers created revised versions of the scale, concentrating specifically on the modern motivational goal appraisal dimensions: importance, effort, progress, and stress (Salmela-Aro, 2001). Goal appraisals were also further elaborated with other goal-related theoretical perspectives, such as the self-determination theory featuring intrinsic and extrinsic motivation goal appraisals (Deci & Ryan, 2000), and the expectancy-value theory featuring success expectation and attainability appraisals (Wigfield & Eccles, 2000). Importance, effort, and stress appraisals can be studied also from the angle of expectancy-value theory (Eccles et al., 1983), where importance resembles attainment value and effort and stress are concepts of cost. Researchers have also grouped or named the goal appraisals differently to serve the means for their particular research questions (Dietrich et al., 2013). Throughout the research, goal appraisals addressed personal goals related to studying, choice of occupation, and preparation for working life henceforth referred to as career goals. In the research, the appraisal dimensions were: success expectations or beliefs regarding goal attainability, intrinsic motivation, effort, and stress (Salmela-Aro, 2001). These dimensions have been particularly useful in studying adolescents' and young adults' motivation in education- and career-oriented goals (Flunger et al., 2016; Ranta et al., 2014; Tynkkynen, Dietrich, & Salmela-Aro, 2014; Vasalampi, Nurmi, Jokisaari, & Salmela-Aro, 2012).

Intrinsic motivation in goal pursuit is conceptualised as the perceived importance of and subjective interest in a goal, with pleasure in the goal pursuit resulting in goal commitment; accordingly, intrinsic motivation has been found to reinforce the investment of effort in a goal pursuit (Deci & Ryan, 2000; Sheldon & Elliot, 1998; Vasalampi et al., 2012). Moreover, intrinsically motivated personal goals have been found to benefit goal progress and, further on, to lead to educational attainments (Vasalampi et al., 2012).

Success expectations are considered as preconditions of goal pursuit (Wright, 2016), and according to the expectancy-value theory people tend to select and persist with goals that they expect to attain (Wigfield, Tonks, &

Klauda, 2009). Thus, success expectations indicate the extent to which the respondent expects the personal goal to be achieved, and the extent to which the respondent sees him- or herself able to fulfil the personal goal. Success expectations can also be described as an individual's beliefs regarding the attainability of his or her personal goal. In this research, career goal success expectations were investigated both cross-sectionally and longitudinally. Earlier findings on career goal appraisals suggest that success expectations are high among adolescents, and these expectations rise even higher during the transition to adulthood among most adolescents and young adults (Tynkkynen et al., 2014).

Effort appraisal in goal pursuit is a cognitive evaluation of the behaviours and actions needed and performed toward achieving a goal (Nurmi, 2004). Motivation intensity theory points out that two "forces" affect the effort put forth in goal pursuit: first, the will or desire to achieve the goal, and second, the difficulty of the actions needed to attain the goal (Brehm & Self, 1989; Wright, 2016). In the research, career goal effort was conceptualised in terms of observable behaviours, such as time and effort spent on the goal pursuit and the concrete work undertaken to achieve the goal (Little et al., 2007; Salmela-Aro, 2002; Salmela-Aro & Nurmi, 2001). Theoretical developmental psychological implications suggest that goal-related effort starts to appear immediately after the formulation of the personal goal but increases significantly right before the deadline for the goal attainment or, in other words, when the urgency demands effort (Heckhausen et al., 2010). Furthermore, empirical findings indicate that effort increases when the goal attainment, such as completing an educational transition, is getting closer (Nagy, Köller, & Heckhausen, 2005). Experimental research has also shown that effort might change due to environmental cues (Rosenbaum, 2014). Here, career goal-related effort was studied longitudinally.

Finally, psychological stress related to personal goals represents a strong negative emotion associated with goal pursuit (Dietrich et al., 2013). According to Lazarus (1991), psychological stress is a cognitive appraisal of emotional strain and it appears when environmental or external demands exceed the available individual coping resources. It has also been suggested that cumulative stress and emotional strain can affect an individual's ability to readjust, resulting in greater vulnerability to physical or psychological problems (Brown & Harris, 1978). In the research, career goal-related stress appraisals were conceptualised as appraisals of the stressfulness of goals and the experience of tiredness in goal pursuit (Little et al., 2007; Salmela-Aro & Nurmi, 2001). Previous studies have found that career goal-related stress increases from age 16 to 20 (Dietrich, Andersson, & Salmela-Aro, 2014), but decreases again across young adulthood (Dietrich et al., 2013).

### 1.3 Identity development

Personal identity refers to an individual's self-definition, and this definition includes goals, values and beliefs (Marcia, 1966; Waterman, 1999), and the focus was particularly on the individual-level processes highlighting the agentic role and self-efficacy of the individual in creating his or her own identity (Côté & Levine, 2002). Thus, the research left out social identity, relational identity and collective identity constructs.

The research focused on identity statuses originally proposed by Marcia (1966) and were measured with the recently developed Dimensions of Identity Development Scale (Luyckx et al., 2006, 2008). Identity status theory operationalises identity development into two distinct processes of *exploration* and *commitment* (Marcia, 1966).

Foremost, this research concentrates on general identity, targeting the overall decisions in life, future directions and lifestyle selection (Luyckx et al., 2006, 2008). Earlier theories propose that identity issues are, or should be, solved by the age of 20, when adolescent developmental tasks are accomplished (Erikson, 1968; Marcia, 1966). In the 21<sup>st</sup> century, the situation is totally different. Recent theoretical and empirical evidence is distinct from Erikson's and Marcia's conceptualisations. There is strong evidence that personal identity development is rather an ongoing project, lasting across most of young adulthood until the end of the third decade of life, and that adaptive identity might be achieved in some domains of life but not others (Arnett, 2000; Côté & Levine, 2002; Luyckx et al., 2010). For this reason, the research focused more specifically on one area, that is, the processes or dimensions of domain-specific occupational career identity at age 26.

This research approaches identity development utilising the process-oriented dual-cycle model of identity (Luyckx et al., 2006), which describes identity development in the cycles of commitment formation and commitment evaluation. The processes in both cycles include, first, the exploration of possible future states, and, second, commitment to particular choices.

More specifically, first the individual explores alternatives (*exploration in breadth*) and then chooses and commits to particular choices (*commitment making*) (Luyckx et al., 2006; Marcia, 1966). This cycle is equivalent to Marcia's (1966) original identity formation dimensions of exploration and commitment. The process in the second cycle includes that the individual goes through his or her current commitments (*exploration in depth*) and then unites these into a sense of self (*identification with commitment*). These two cycles describe the adaptive and adequate identity development process.

Research has also identified maladaptive processes of identity development, referred to as *ruminative exploration* (Luyckx et al., 2008) in the present model. Ruminative exploration is when an individual gets stuck in the exploration process and ponders on life without direction. Moreover, a recent study by Zimmermann, Lannegrand-Willems, Safont-Mottay and Cannard (2015)

demonstrated that in-depth exploration has two sides: exploration leading to a better understanding of one's current commitments and subsequent firming up of these commitments, and a "darker side" where exploration leads to a re-evaluation of commitments. This re-evaluative exploration has also been described as exploration in-depth with reconsideration. These different sides of in-depth exploration can be linked, at least theoretically, to the career reconsideration processes of commitment flexibility and commitment self-doubt (Porfeli & Savickas, 2012), as well as to the process model of identity formation, which describes both adaptive and maladaptive in-depth exploration processes (Crocetti et al., 2008).

### 1.3.1 Identity statuses

The identity status theory was first proposed by Marcia (1966). According to this theory, identity is formulated in processes of exploration and commitment (Kroger & Marcia, 2011; Marcia, 1966). Exploration refers to rethinking, sorting through and trying out various life roles and plans. Commitment, on the other hand, refers to the observable degree of personal investment regarding behaviour, goals or beliefs. These two processes have been conceptualised as dimensions that basically range from absent to present. Further, seen together, these dimensions form four different types of identity statuses, which has been the subject of a substantial amount of research over the last four decades (for a review, see e.g., Crocetti, Sica, Schwartz, Serafini, & Meeus, 2013; Schwartz 2001).

Originally, the four statuses were defined as achievement, moratorium, foreclosure, and diffusion (Kroger & Marcia, 2011; Marcia, 1966). The following are descriptions of the original identity statuses suggested by Kroger & Marcia (2011). Individuals with *achieved identity* seem to be solid with respect to the most important points of focus in their life. They are firm but flexible when it comes to their chosen life path. When facing obstacles, they are gritty and tend to be persistent. They are also described as being understanding of others' experiences and differing opinions, which they can consider reflectively, and are described as being reliable and possessing strength of character. Accordingly, in observable measures, achievement has been associated with high commitment following a time of distinct exploration (Luyckx et al., 2008; Schwartz et al., 2011).

Individuals in *moratorium* status are making every effort to define themselves, who they are and who they are going to be. Consequently, they experience internal conflict. Moratoriums have been described as either being able to charismatically engage others in their exploration process (explorers) or drowning in their struggles to swim against the tide of authority (ruminators). Over time, moratoriums might either lead to achievement through firm commitments or to numbness characterised by careless fluctuation. Thus, in observable measures, moratorium has been associated with low commitment and high exploration (Luyckx et al., 2008; Schwartz et al., 2011).

Individuals with a *foreclosure* status can appear strong and self-directed, but there is an underlying fragility in their position. Individuals in foreclosure

strive to maintain their stance by denial or distorting contradictory information. When their values are mainstream in their social context, they appear well-adjusted, but their inflexibility toward different values or life directions become visible in differing social contexts while questioning foreclosed individuals' position causes them to intensify their "us and them" posture. In observable measures, foreclosure is associated with high commitment and absence of exploration (Luyckx et al., 2008; Schwartz et al., 2011).

Finally, the last of the four statuses is *diffusion*. It is marked by weak or non-existing exploration as well as the absence of definite commitments. At their best, individuals with diffused identity can be whatever current influences shape them to be, appearing extremely flexible and eternally adaptable. But this means that they must constantly look externally to define who they are because of the absence of an internal sense of self-definition. At their worst, they feel lost and isolated, experiencing emptiness and meaninglessness. In observable measures, diffusion has been associated with the absence of both exploration and commitment (Luyckx et al., 2008; Schwartz et al., 2011).

Several recent studies have identified identity statuses on the basis of empirically measured profiles of identity processes, and these have often been drawn from cluster analysis (Crocetti et al., 2008; Crocetti, Schwartz, Fermani, Klimstra, & Meeus, 2012; Luyckx et al., 2008, 2010; Schwartz et al., 2011; Zimmermann et al., 2015) and latent class analysis (Meeus, Van De Schoot, Keijsers, Schwartz, & Branje, 2010). These studies have confirmed some of the profiles proposed by Marcia (1966) and presented above: achievement, composed of moderate or high exploration of alternatives, without ruminative exploration, and then clear commitment; and foreclosure consisting of very clear commitments without exploring alternatives (Crocetti et al., 2008; Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015).

Advancements in recent research have examined the multitude of refined statuses, such as the following: *Ruminative moratorium*, which is characterised by weak commitments, high exploration, and particularly ruminative exploration (Luyckx et al., 2008). *Searching moratorium*, which is characterised by strong and clear commitments, but returning to consider these with high exploration of new alternatives (Crocetti et al., 2008; Zimmermann et al., 2015). *Carefree diffusion*, which is characterised by an untroubled approach toward identity and marked by very low commitment and little exploration, except for ruminative exploration having been found to be close to the overall mean (Schwartz et al., 2011). Finally, *diffused diffusion*, which is composed of weak exploration, weak definite commitments, and elevated ruminative exploration (Crocetti et al., 2008; Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015).

### 1.3.2 Career identity development

Career identity is a domain-specific construct referring to the conscious awareness of oneself as a worker or future worker (Skorikov & Vondracek, 2011). While general identity refers to exploration and commitment regarding one's overall life path, career identity specifically addresses the individual's exploration and commitment concerning his or her future career plans, career goals, values related to work, and career and work beliefs. Career identity can also be referred as occupational, work or professional identity. Research studying the relations of general identity and career identity has shown that career identity has a strong effect on general identity development, particularly during the transition from school to work (Danielsen, Lorem, & Kroger, 2000). And later, a Finnish long-term longitudinal study on development spanning from age 27 to 50 found that occupational identity development overtakes development in other life domains in adulthood, and that career identity is the most congruent with identity development at the overall, general identity development level (Fadjukoff, Pulkkinen, & Kokko, 2005, 2016).

Career identity formation is an important developmental task of adolescence as well as young adulthood (Erikson, 1968; Flum & Blustein, 2000; Vondracek, Lerner, & Schulenberg, 1986), but research has shown that many young people seem to postpone making occupational commitments without engaging in active and systematic career exploration (Côté, 2000). This maladaptive identity development has also been described as 'floundering' (Super, 1957) and prevents adolescents and young adults from making meaningful occupational decisions (Salomone & Mangicaro, 1991). Thus, it is important to develop a general sense of direction and career identity at the beginning of the transition from school to work (Skorikov & Vondracek, 2011).

The research specifically examined career identity development and how motivational career goal appraisals of success expectations, effort and stress predict career identity development. Earlier research suggests that young people with a strong sense of agency are more likely to engage in exploration and make flexible commitments while being less likely to conform to or avoid identity processes (Schwartz et al., 2005). It is described that individuals with strong agency accept responsibility for the course of their life and their own decisions, and accept the consequences of their decisions, as well as being confident that they will overcome barriers and obstacles. The same study also proposed that individuals showing low effort may miss out on identity development opportunities provided by the psychosocial moratorium during young adulthood. Finally, empirical studies have provided strong and consistent evidence that having a strong occupational or career identity is associated with good psychological adjustment, well-being and life satisfaction (Christiansen, 1999; Kroger, 2007), and during the transition from school to work career identity achievement predicts good mental health (de Goede, Spruijt, Iedema, & Meeus, 1999; Meeus, Deković, & Iedema, 1997).

## 1.4 Phase-adequate engagement

The theories pertaining to phase-adequate engagement (Dietrich et al., 2012), career development (Savickas, 2005), the life-span model of motivation (Salmela-Aro, 2009), personal identity development (Luyckx et al., 2006, 2008), and occupational identity development (Skorikov & Vondracek, 2011) address the question of how people engage in the changes faced during the transition from adolescence to young adulthood. It has been stated that engagement is phase-adequate when it maximises the opportunities for transitional success and minimises potential transition-related costs (Dietrich et al., 2012).

The conceptualisation of phase-adequate engagement constitutes principles that tie together the theoretical fields of career development (Porfeli & Lee, 2012; Savickas, 2005), developmental regulation (Nurmi, 2004; Salmela-Aro, 2009) and identity development (Luyckx et al., 2006, 2008), stating that phase-adequate engagement in adolescence and young adulthood includes: transition awareness (about developmental tasks and in-breadth exploration), identity and goal crystallisation (forming commitments and career goals, exploring in depth), transition management (goal engagement, planning, choice actualisation), goal and strategy adjustment (adjusting goals and commitments), and reflection (integrating experiences and transition outcomes into identity) (Dietrich et al. 2012). Phase-adequate engagement suggests that, for young people, it is adaptive and adequate to set career goals, to form a career identity, to actively pursue these goals and actualise one's career identity, and if necessary to reconstruct goals and adjust identity commitments (Dietrich et al., 2014).

## 1.5 Correlates of subjective well-being

Subjective well-being is people's evaluation of the quality of their life, which includes both cognitive judgements and affective reactions (Diener, 2001). In the research, subjective well-being was presented in terms of general well-being as well as in relation to domain-specific education and work. Further on, general and domain-specific well-being are investigated from both positive and negative sides.

In the research, general subjective well-being was viewed in terms of individuals' levels of life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985; Diener, Suh, Lucas, & Smith, 1999), self-esteem (Rosenberg, 1965), and symptoms of depression (Beck, 2008). *Life satisfaction* is defined as an individual's cognitive evaluation of his or her life according to subjectively determined standards (Diener et al., 1999). Life satisfaction is evaluated in terms of past and present. The past is evaluated in terms of whether important things have been reached so far, and whether something established in the past should be presently changed (Diener et al., 1985). Present life satisfaction takes into account

the individual's circumstances, feelings of satisfaction, and proximity to an ideal situation.

Life satisfaction is strongly related to *self-esteem* in Western individualistic cultures (Diener & Suh, 2000), and thus it can be considered as one indicator of subjective well-being. Self-esteem is defined as the perception and self-knowledge of one's own values (Baumeister, Campbell, Krueger, & Vohs, 2003). However, it has been stated that high self-esteem may appear in two distinct forms. First, it may represent an accurate, justified and balanced appreciation of one's worth as a person and of one's successes and. And second, contrastingly, high self-esteem may represent a swollen, arrogant, grandiose, and unjustified sense of superiority over others (Baumeister et al., 2003). The same polarity has been noted with respect to the low self-esteem construct. Low self-esteem can be seen to represent either an accurate understanding of one's shortcomings as a person or a problematic sense of insecurity and inferiority. In this research, self-esteem is investigated using its characterisation as seeing good qualities in oneself and having a positive view of oneself as well as self-respect (Rosenberg, 1965).

Finally, general subjective well-being is measured by levels of depressive symptoms. *Symptoms of depression* include persistent experience of increased negative affect, diminished experience of pleasure and positive affect, and experience of unworthiness and low energy (American Psychiatric Association, 2013).

Domain-specific subjective well-being is measured by *school-, study- and work-related engagement* (Fredricks, Blumenfeld, & Paris, 2004; Newmann, 1991; Salmela-Aro & Upadaya, 2012; Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002). Engagement is defined as highlighting the affective component in the commitment to studying or working in the form of energy, dedication and absorption (Salmela-Aro, Kiuru, et al., 2009; Salmela-Aro & Upadaya, 2012; Schaufeli et al., 2002). In this framework, energy represents exerting a high level of vigour, energy and force while studying or working. Dedication represents a positive cognitive frame of mind toward studying or working in general, perceiving studying or working as meaningful, and experiencing a sense of significance, enthusiasm, challenge, and inspiration. Absorption is characterised by fully concentrating on and being happily involved in the task under way, commonly accompanied by the experience of 'time flying by'. These dimensions strongly correlate with each other (Salmela-Aro & Upadaya, 2012) and thus engagement is studied as a single construct in the present research.

Lastly, in the domain-specific examination, low levels of school-, study- or work-related burnout (i.e., academic burnout) account for high subjective well-being. *Academic burnout* consists of three different dimensions: exhaustion, cynicism, and a sense of inadequacy (Salmela-Aro, Kiuru et al., 2009; Salmela-Aro, Savolainen, & Holopainen, 2009; Schaufeli et al., 2002). *Exhaustion* refers to feeling emotionally overloaded, feeling that resources for managing life have run out, feeling powerless and tired in the face of the demands set by either school or work, ruminating about school- or work-related issues, and experiencing

sleeping problems. *Cynicism* refers to an impassive, loose attitude toward school or work in general, as part of which studying or working is not seen to be meaningful and interest in school or work has been lost. *Sense of inadequacy* refers to reduced feelings of competence, achievement and accomplishment, commonly accompanied by a negative view of oneself, one's performance or one's knowledge.

### 1.5.1 Personal goals and subjective well-being

The association between personal goal pursuit and subjective well-being has been investigated extensively (Brunstein, 1993; Emmons, 1991; Heckhausen, 1999; Little, 1989; Salmela-Aro, 1992, 2001; Salmela-Aro & Nurmi, 1997). The research focused specifically on the content of personal goals and subjective well-being. The life-span model of motivation suggests that personal goals that are aligned with the developmental tasks of life phases are adequate and thus facilitate the well-being of the individual (Nurmi, 2004; Salmela-Aro, 2001, 2009; Salmela-Aro & Nurmi, 1997). It has also been proposed that only the completions of personal goals that are congruent with motivational dispositions contribute to enhanced well-being (Brunstein, Schultheiss, & Grassman, 1998). Both cross-sectional (Emmons, 1991) and longitudinal studies (Salmela-Aro & Nurmi, 1997) have shown that young adults who have goals that are related to personal relationships, family and education experience better subjective well-being and fewer symptoms of depression than other young adults. Empirical research has also shown that personal goals related to leisure time activities are associated with high life satisfaction (Little & Chambers, 2004).

By contrast, several studies have pointed out that personal goal contents concerning change and improvement of personality and identity (i.e., self-related goals) are related to distress, low self-esteem, problems with mental health, and exhaustion (Salmela-Aro, 1992; Salmela-Aro et al., 2001, 2007; Salmela-Aro & Nurmi, 2004). The relation between self-focused personal goals and low subjective well-being has been found to be reciprocal. Increase in the amount of self-related personal goals relates to increase in depression symptoms, and a greater number of depression symptoms leads to a greater number of self-focused personal goals (Salmela-Aro & Nurmi, 1997; Salmela-Aro et al., 2001).

### 1.5.2 Identity development and subjective well-being

Identity development and subjective well-being have received extensive attention in research in last decade. After the evolution of the measures for studying maladaptive identity exploration (Crocetti, Schwartz, Fermani, & Meeus, 2010; Luyckx et al., 2008), many empirical studies have specifically considered the association between the maladaptive identity process and subjective well-being (Beyers & Luyckx, 2016; Luyckx et al., 2008; Schwartz et al., 2011, 2015). Studied specifically from the identity status perspective, the statuses of ruminative moratorium and diffused diffusion have been found to be associated with

problems in general psychological functioning, such as heightened symptoms of depression (Crocetti et al., 2008; Luyckx et al., 2008; Schwartz et al., 2011) and lowered satisfaction with life (Schwartz et al., 2015), and in domain-specific functioning such as academic burnout and low career engagement (Luyckx et al., 2010), lower intrinsic motivation, and feelings of incompetence (Waterman 2004). The research investigated the relations between identity profiles or statuses, measured with the Dimensions of Identity Development Scale (Luyckx et al., 2006, 2008), and subjective well-being in, for the first time, the Finnish context.

Finally, low subjective well-being experienced as stress regarding career goal pursuit is investigated in relation to career identity development. One of the aims was to study to what extent the stress experienced with career goal pursuit is related to career identity development, captured with adaptive career identity dimensions of career commitment making, identification with career commitment and career exploration in breadth and depth, or captured with maladaptive career identity dimensions of ruminative career exploration. Earlier findings suggest that people appraise stressfulness in two phases, as follows. In the first phase, the threat to the self is appraised (Lazarus & Folkman, 1984). Perceived threat to the self occurs in situations that are unfavourable for oneself, such as during a failure, and when the individual experiences challenges, contradictions or mocking regarding his or her self-concept or identity (Campbell & Sedikides, 1999). In the second phase of stress appraisal, the individual appraises his or her own ability to cope with the threat (Lazarus & Folkman, 1984). These evaluations of challenges and contradictions are expected to be included in career goal stress appraisals. It is theorised that in these two phases, stress develops into a long-term problem when a threat to the self persists in association with insufficient coping resources. The research investigated how these stress appraisals are linked to adaptive and maladaptive identity development.

## **1.6 Rumination in personal goal pursuit and identity formation**

During the transition to adulthood some barriers and difficulties inevitably occur. According to the life-span model of motivation, adolescent and young adults need to renegotiate, compensate and adjust their goals and identity commitments (Dietrich et al., 2012; Nurmi, 2004; Salmela-Aro, 2009). In light of phase-adequate engagement (Dietrich et al., 2012), the renegotiation and compensation process can either be adequate or inadequate for the transition phase at hand. The research focused particularly on maladaptive and inadequate processes, when adolescent and young adults are facing obstacles during the transition to adulthood, investigating rumination concerning personal goals and identity development. Rumination is repetitive thinking about negative personal concerns and about the implications, causes and meanings of a negative mood state (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008), and it is described as a style of thought rather than just negative thought content (Joormann &

Vanderlind, 2014). Rumination is related to the onset and maintenance of depression (for review, see Nolen-Hoeksema et al., 2008) as well as even suicide (Li, Chau, Yip, & Wong, 2014). Rumination has been found to impair recovery from acute stressors (Stewart, Mazurka, Bond, Wynne-Edwards, & Harkness, 2013). All of these outcomes might be due to rumination leading to sustained negative mood, heightened negative cognitions and decreased effective problem solving in depressed participants, as has been reported in past studies (e.g., Watkins & Moulds, 2005). Also, recent meta-analysis has shown that rumination is associated with the core executive function of the ability to resist automatic responses (inhibition) as well as the ability to switch between tasks or response rules (mindset-shifting) (Yang, Cao, Shields, Teng, & Liu, 2017). These mechanisms might account for the repetitiveness and brooding in rumination.

The research approached rumination from two angles. First, rumination is investigated in regard to personal goal contents and how ruminative self-related contents are associated with well-being. Second, rumination in identity development is examined, specifically in terms of how the ruminative processes in identity exploration are related to both well-being and personal goal contents.

Research conducted on adolescents' and young adults' personal goal contents have identified personal goals that focus on the self and self-esteem, personal growth and development, gaining independence, figuring out one's own feelings, and the experience of loneliness, stress and academic burnout (Little et al., 2007; Salmela-Aro, 1992). According to content analysis, the integrative nominators of these goals are the ruminative tone and style of the content (Salmela-Aro, 1992). Ruminative self-focused personal goals and concerns are found to be associated with low well-being, low self-esteem, depressive symptoms, and mental health problems (Luyckx et al., 2008; Salmela-Aro, 1992; Salmela-Aro et al., 2001, 2012).

Optimal identity development has been described to include exploration of self-related issues (Erikson, 1968). Research has shown that self-focusing is indeed at times self-reflective, and thus related to positive outcomes (Burwell & Shirk, 2007; Salmela-Aro et al., 2012; Salmela-Aro & Nurmi, 1997). However, self-focused attention has also been reported to associate with negative thinking and rumination (Mor & Winquist, 2002). It has been proposed that 21<sup>st</sup> century Western societies, while providing limitless possibilities to search and explore goals and identities, might induce confusion in young people who then end up locked in a ruminative cycle of continued exploration (Côté & Levine, 2002; Luyckx et al., 2008; Schwartz, Kurtines, & Montgomery, 2005). This ruminative exploration is characterised by repetitive and passive fixation on the self and problems leading to feelings of hopelessness and uncontrollability of the situation at hand (Luyckx et al., 2008; Nolen-Hoeksema et al., 2008).

## 1.7 Person-oriented research

The development process is at least partly specific to individuals (Bergman & El-Khoury, 2001). Traditionally, psychological research is conducted using the variable-oriented approach, when associations, differences and correlations between certain variables are the main interest. Variable orientation has limitations when trying to understand single individuals' developmental processes (Magnusson 2003). A shortcoming of the variable-oriented approach relates to it dealing with mean levels, ignoring possible non-normative subgroups (Bergman & El-Khoury, 2003). In the person-oriented approach (Bergman & El-Khoury, 2003; Muthén & Muthén, 2012; Von Eye & Bergman, 2003), the main interest is in meaningful groups of individuals and typical patterns that appear in subgroups of individuals. Research utilising the person-oriented approach is guided by a research paradigm in which the individual is the focus, and the individual is seen as a functioning totality. Thus, the person-oriented approach leaves room for different types of individuals rather than compressing everyone into one mean. In the research, the person-oriented approach was utilised in identifying different meaningful types of profiles either in regard to personal goal contents or identity dimensions.

## 1.8 The Finnish education system

The type of education, if any, that the adolescent chooses after comprehensive school strongly channels his or her career pathway of later life (Dietrich et al., 2014; Schoon & Parsons, 2002; Tynkkynen, Tolvanen, & Salmela-Aro, 2012). In Finland, compulsory basic education is completed at age 16 after Grade 9, after which adolescents choose to attend either general upper secondary school (senior high school) or vocational school (see Figure 1). Official Statistics of Finland, (2016) covering 2005–2014 reveal that following compulsory school, 51% of adolescent students choose to attend general upper secondary education, 41% choose a vocational education, and 8% do not continue an education that would lead to higher qualification.

If an adolescent chooses the vocational “track”, he or she can earn an occupational qualification in three years and enter working life at age 18. Further along the vocational track, it is possible to re-enter education after a few years of work experience, to study for a tertiary-level qualification either at a university or a university of applied sciences (formerly referred to as ‘polytechnics’), and from there to progress even to a doctoral degree. Despite this possibility to further progress educationally later on, young adults on the vocational track hardly ever continue their studies after attending vocational school, at least not within three years’ time after attaining their vocational qualification (Dietrich et al., 2014).

Around half of the adolescents chose general upper secondary school, continuing on the academic track. General upper secondary school provides a generic education, after which one can continue with secondary level vocational education, or a higher vocational education (university of applied sciences), or a tertiary-level academic education (university). Optimally, on the academic track, the young adult enters full-time working life after completing both the secondary and tertiary levels of education around age 22–25, depending on the level of qualification. On the academic track, such an ideal progression is seldom the case. Between 2005–2015, only 4% of students continued with secondary-level vocational school after general upper secondary school, while 16% of students proceeded with studying at a university of applied sciences, 18% started university studies, and as high as 61% did not continue with any further education that would lead to a qualification (Official Statistics Finland, 2016). This reveals that it is typical of the Finnish education system that young adults on the academic track have a gap year(s) in their educational career, resulting in delayed working life but also supporting a more thorough engagement in exploring career goals and career identity.

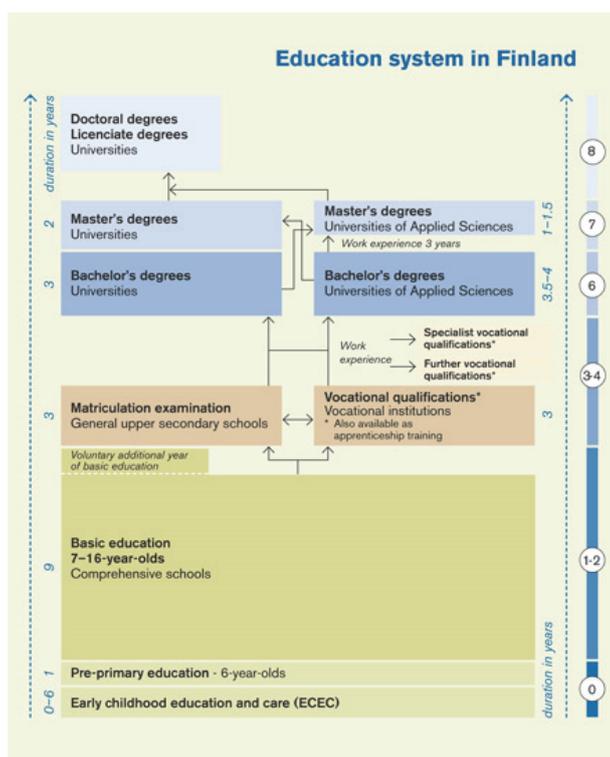


FIGURE 1 The Finnish education system. Retrieved from [http://www.oph.fi/english/education\\_system](http://www.oph.fi/english/education_system)

## 1.9 Aims of the research

The broad aim of this research was to examine, in a longitudinal setting, Finnish adolescents' and young adults' pursuit of personal goals and identity development as well as the relations between personal goals, identity development and subjective well-being.

Study I examined what kinds of profiles can be identified in personal goal contents, and how the identified profiles correlated to academic school-related burnout, depressive symptoms, satisfaction with life, and self-esteem.

Research question 1: What kinds of profiles can be identified in adolescents' personal goal contents?

Hypothesis 1.1: It was expected that the majority of the personal goals of adolescents would be related to education, career, and social relations (Salmela-Aro, 2001).

Hypothesis 1.2: It was expected to identify a group of adolescents who have personal goals regarding self and self-development (Salmela-Aro et al., 2007).

Hypothesis 1.3: It was assumed that adolescents with profiles that include self-related goals (Mor & Winquist, 2002) would have more academic school-related burnout and symptoms of depression as well as lower life satisfaction and self-esteem, whereas those adolescents whose goal orientations include goals congruent with development tasks would be experiencing better subjective well-being.

Study II aimed to identify development profiles among Finnish young adults, and to validate the profiles yielded by the analysis by examining their correlations with subjective well-being and career goal appraisals. Further, Study II longitudinally examined the extent to which the content of young adults' personal goals and concerns differed according to their identity profiles.

Research question 2: What kinds of profiles can be identified in young adults' identity development dimensions?

Hypothesis 2.1: It was expected to find identity development profiles similar to those reported earlier, including statuses of achievement, foreclosure, diffused diffusion, searching moratorium and reconsidering moratorium (Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015).

Hypothesis 2.2: It was expected that young adults with diffused diffusion and ruminative moratorium profiles would have poorer well-being (Luyckx et al., 2008, Schwartz et al., 2011).

Hypothesis 2.3: It was assumed that diffused diffusion and ruminative moratorium profiles would be related to poorer motivational outcomes (Waterman, 2004).

Hypothesis 2.4: It was expected that diffused diffusion and ruminative moratorium profiles would reflect maladaptation, manifesting in personal goals that are less optimal for the life phase of the transition to adulthood (Dietrich et al., 2012; Salmela-Aro et al., 2012). In particular, in such cases, personal goals and concerns related to the developmental tasks of forming and maintaining good relationships with one's family, dating partner and friends were expected to be rarer (Salmela-Aro et al., 2012).

Hypothesis 2.5: It was expected that diffused diffusion and ruminative moratorium profiles would relate to ruminative and lifestyle-oriented self-focused personal goals and concerns (Luyckx et al., 2008; Salmela-Aro et al., 2012).

Study III examined the extent to which longitudinal trajectories of success expectations, effort and long-term stress with respect to one's career goals from adolescence to young adulthood (age 16 to 23) would predict identity dimensions in the career domain later on, at age 26.

Hypothesis 3.1: Career goal success expectations were expected to increase in trend during the transition from adolescence to young adulthood (Tynkkynen et al., 2014).

Hypothesis 3.2: High and increasing success expectations were expected to strengthen adaptive identity development (Eccles, 2009). It was hypothesised that career goal success expectations would be positively related to adaptive and adequate identity processes.

Hypothesis 3.3: Career goal effort was expected to stay at a constant level in the transition from adolescence to young adulthood (Dietrich et al., 2014).

Hypothesis 3.4: Earlier research has suggested that individuals with low effort may miss out on identity development opportunities provided by psychosocial moratorium during young adulthood (Schwartz et al., 2005). It was expected that higher effort would be related to more adaptive and agentic identity processes.

Research question 3: How does career goal-related stress change across time from age 16 to 23?

Earlier findings have suggested that career goal stress appraisals increase in late adolescence (Dietrich et al., 2014) but decrease across young adulthood (Dietrich et al., 2013). Due to a lack of long-term longitudinal research on developmental trends regarding career goal stress, only a research question regarding changes in career goal stress across time was formulated.

Hypothesis 3.5: Earlier evidence has shown that poor psychosocial functioning, indicated by anxiety and symptoms of depression (Schwartz et al., 2011) or burnout (Luyckx et al. 2010), is related to maladaptive identity processes. Thus, it was assumed that the stress experienced with career goal pursuit would be associated to maladaptive career identity development.

## 2 METHOD

### 2.1 Participants

Both samples examined are part of the ongoing Finnish Educational Transitions Studies (FinEdu, 2013) research project. The aim of the FinEdu project is to study adolescents' and young adults' educational transitions and associated factors that young people face after compulsory comprehensive education. The study concerns the transition from compulsory school to secondary education, as well as the subsequent transition to either tertiary education or working life. The transitions and choices young people make are studied with a particular emphasis on the role of personal goals, motivation, and subjective well-being.

In Study I, a cross-sectional data set was used. The participants were 1,144 general upper secondary school and vocational school students. The general upper secondary school students were from a town in the central part of Finland and the vocational school students were from the metropolitan area of Finland. In the final analysis, there were and 608 students from general upper secondary school (age:  $M = 17.05$  years,  $SD = 0.27$  years) and 536 students from vocational school (age:  $M = 17.83$  years,  $SD = 1.59$  years).

In Studies II and III, the same longitudinal data set (sample 2) was used (see Table 1). At the beginning of the data collection, sample 2 included all of the 16-year-old students living in a mid-sized city (population circa 97,000 inhabitants) in Central Finland, in their last year of comprehensive school. The socioeconomic status of the families that the participants stemmed from was: blue-collar (13%), lower white-collar (48%), and upper white-collar (39%). During the data collection at times 2 and 3, during upper secondary education, more participants were added to the data set as the data were being collected in schools. After the transition to tertiary studies or working life (time points 4, 5 and 6), the questionnaires were directly sent to participants already in the data set. Due to the participants added at two points, the data set used in Study II was bigger than that in Study III, even though the sample was the same.

TABLE 1 Data structure of sample 2

	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6
Measurement point	January 2004	January 2005	January 2006	Spring 2009	Spring 2011	Spring 2014
Career or education context	Ninth grade	Upper secondary education	Upper secondary education	Working life / further studies	Working life / further studies	Working life / further studies
Age	16	17	18	21	23	26
Study II					n = 577	n = 482
Study III	n = 699	n = 653	n = 594	n = 497	n = 475	n = 494

## 2.2 Variables and statistical methods

In Studies I to III, different sets of variables and methods were used (see Table 2). The Personal Project Analysis Inventory method (Salmela-Aro, 2001) was used in all studies and was thus the overarching method of the research. Both person-oriented and variable-oriented statistical methods were used.

TABLE 2 Summary of variables and statistical methods

Study	Sample	Variables	Statistical methods
Study I	Sample 1	Gender Current education Age Four personal goals Academic burnout - emotional exhaustion - cynicism - feeling of inadequacy Depressive symptoms Satisfaction with life Self-esteem	Non-hierarchical K-means cluster analysis ANOVA
Study II	Sample 2	Gender Life situation SES Relationship status Age Four personal goals Two personal concerns Career-related personal goal Appraisals - intrinsic motivation - progress - attainability Identity formation - commitment making - identification with commitment - exploration in breadth - exploration in depth - ruminative exploration Satisfaction with life Depressive Symptoms Engagement in academic context Academic burnout	Confirmatory factor analysis Latent profile analysis ANOVA Configural frequency analysis
Study III	Sample 2	Career goal appraisals - success expectation - effort - stress Career identity formation - career commitment making - identification with career commitment - career exploration in breadth - career exploration in depth - ruminative career exploration	Latent growth curve modeling

### 2.3 Personal goal content analysis

Personal goal contents at different ages were examined in both samples. In sample 1, the participants reported their personal goals at age 17; and in sample 2, they reported their personal goals, including both personal projects and concerns, twice: at age 23 and again at age 26. Table 3 presents the personal goal categories and examples of the personal goals at each time point.

TABLE 3 Personal goal and concern categories and examples

Category	Personal goals Sample 1 Age 17	Personal projects Sample 2 Ages 23 and 26	Concerns Sample 2 Ages 23 and 26
Present education	"Finish up this school"	"Succeed in university studies"	"My studies are not progressing as I would have liked"
Vocation / work	"Get a nice job"	"Get a permanent job"	"I won't get a job in my field of education"
Finance and money	"I want to be rich"	"Save money"	"Money"
Future education	"Apply to a college"	"Study for a doctoral degree"	"I'm too old to study music"
Health	"Stay healthy"	"Stay healthy"	"Health-related" "I'm in bad shape" "That I'll get sick"
Friends	"Hold on to friendships"	"Hold close people near"	"Which one of my friends will stay close"
Relationship	"Move together with my boyfriend"	"Happy relationship" "Get married"	"Well-being of my loved one"
Hobbies and sports	"Progress in my hobby"	"Read more", "Play music", "Run a marathon", "Meditate"	"I don't have enough free time"
Self-related goals	"To learn to be more open and to have more courage"	"Develop to be a better person" "Stress less" "I want to understand myself better"	"I'm not good enough" "I won't have enough strength" "I'm lonely"
Lifestyle	"I want to be famous"	"Happiness" "Live in the moment" "Time management"	"Own future" "I won't get enough done"
Travelling	"Go to Southern Europe during summer holiday"	"Travel"	

Dating	"Fall in love with a wonderful girl"	"Girlfriend"	"Being single"
Moving	"I want to move out of my parents' house"	"Buy my own home"	"Getting a mortgage"
Childhood family	"Keep in contact with my parents and family"	"See my parents more than once a year"	"That everything will be alright for my parents"
Military service	"Go to army"		
One's children	"Take care of my children"	"Have children"	"Well-being of my child"
Appearance	"Lose weight"	"Lose weight a little"	"Overweight"
Substance abuse	"Drink as much alcohol as possible"	"Reduce alcohol use"	

## 2.4 Person-oriented methods

Using a person-oriented approach, in Study I, the meaningful groups of adolescents' personal goal contents were obtained by non-hierarchical K-means cluster analysis in SPSS 13.0. The personal goal content variable was a nominal scale variable, which can transform into a continuous variable forming a count variable of each content class. The cluster analysis was conducted with the count variables. The best solution was selected when further division of the data did not reveal any more meaningful groups. The stability of the solution was tested by clustering the randomised half of the data.

In Study II, the person-oriented method of latent profile analysis (LPA) in Mplus (Muthén & Muthén, 2012) was used to reveal identity formation profiles, that is, statuses. LPA is a model-based modification of cluster analysis (Vermunt & Magidson, 2002), and its advantage for cluster analysis is that it provides fit indices to guide in the selection of the best solution. Identity dimension variables were continuous variables. It is very common practice in identity status research to form statuses using person-oriented methods like cluster analysis or LPA (Luyckx et al. 2011).

Later on in Study II, yet another person-oriented method of configural frequency analysis (CONFA; Stemmler, 2014; von Eye, 1990) was used to examine how the identified identity profiles differed in regard to the frequencies of the contents of personal goals in the cross-sectional analysis as well as longitudinally. CONFA is a non-parametric method that identifies overfrequent observations occurring more often than expected (type) in cells of cross tabulation or more complex configurations, and underfrequent observations (anti-type) occurring less often than expected (Stemmler, 2014). CONFA enables analysing patterns far more complex than, for example, a chi-square test would. Utilising CONFA, the more common and rarer personal goals within the different identity profiles were identified.

## 3 OVERVIEW OF THE ORIGINAL STUDIES

### 3.1 Study I

#### **Personal goal orientations and subjective well-being of adolescents**

The aim of Study I was to examine what kinds of profiles can be identified in the personal goal contents of adolescents, and to find out how the identified profiles differ from each other in regard to school-related burnout, depressive symptoms, satisfaction with life, and self-esteem.

In the context of person-oriented approach, 1,144 17-year-olds (565 female, 579 male) from both general upper secondary school and vocational school filled in the revised Personal Project Analysis inventory, writing down four of their personal goals and then rating their levels of school burnout, depression, life satisfaction, and self-esteem.

Cluster analysis revealed four personal goal profiles, which were then labelled according to their most frequent goal content: (1) *Property* (40% of the participants), (2) *Vocation* (24% of the participants), (3) *Social relationships and future education* (23% of the participants), and (4) *Self-focused* (13% of participants). As expected, the majority of the adolescents' personal goals were related to education, career, and social relations (Hypothesis 1.1), and thus to normative developmental tasks. The cluster analysis revealed a small group of adolescents that had significantly more self-focused, ruminative types of personal goals (Hypothesis 1.2). The well-being indicators were compared across these four groups and the results showed that those in the self-focused group were the most burned out, had the most symptoms of depression and the lowest life satisfaction and self-esteem compared with the other groups that had personal goals more congruent with normative developmental tasks (Hypothesis 1.3).

## 3.2 Study II

### Dark shadows of rumination: Finnish young adults' identity profiles, personal goals and concerns

The aim of Study II was to identify identity development profiles among Finnish young adults and validate these profiles by examining the associations with career goal appraisals and well-being indicators. Another aim was to longitudinally examine the extent to which the content of young adults' personal goals and concerns differed according to their identity profiles.

Young adults ( $n = 577$ ; 322 female, 255 male) aged 23 years filled in a questionnaire with open questions and space to write down four of their personal goals and two personal concerns, then marked inventories measuring dimensions of identity development (commitment making, identification with commitment, exploration in breadth, exploration in depth, and ruminative exploration), career goal-related intrinsic motivation, progress and attainability, as well as well-being measures of life satisfaction, symptoms of depression and academic engagement and burnout. At age 25, the same participants were contacted again ( $n = 482$ ; 286 female, 196 male) and were again asked to write down four of their personal goals and two of their personal concerns.

The results revealed five identity profiles, which were labelled as: (1) *Moderate achievement* was the largest profile group (44% of participants), with no extreme scores in any dimensions; (2) *Moderate diffusion* was the second-largest profile group (30%), featuring somewhat elevated levels of reconsidering in-depth and ruminative exploration; (3) *Achievement* was the third-largest profile group (14%), scoring high in commitment dimensions and very low in ruminative exploration; (4) *Diffused diffusion* was the fourth-largest profile group (9%), scoring low in commitment dimensions and highest in ruminative exploration; and (5) *Reconsidering achievement* was the smallest profile group (3%), with high scores in all dimensions except ruminative exploration. When comparing results, the profiles that emerged here are only partly similar to those reported earlier (Hypothesis 2.1).

The results of the validation measures of well-being and motivational outcomes showed that individuals with the Diffused diffusion profile had the poorest well-being (Hypothesis 2.2), and the profile was also related to poorer motivational outcomes (Hypotheses 2.3). When longitudinally investigating the personal goals related to identity profiles, the results showed that individuals with maladaptive identity profiles, specifically Diffused diffusion, tend to have personal goals that are less optimal for the life phase of the transition to adulthood, particularly when having less personal goals related to the normative developmental tasks of forming good relationships with one's family, dating partner and friends (Hypothesis 2.4). Finally, the results showed that the Diffused diffusion profile was related to ruminative and self-focused lifestyle-oriented personal goals and concerns (Hypothesis 2.5).

### 3.3 Study III

#### **Career goal appraisals throughout adolescence and young adulthood: Developmental trajectories and associations with career identity**

The aim of Study III was to investigate long-term longitudinal changes in career goal appraisals throughout adolescence and the transition to adulthood, and how developmental trajectories of career goal appraisals were related to specific dimensions of career identity development in young adulthood.

Adolescents 16 years of age ( $n = 699$ ; 322 female, 367 male), in the phase of the transition leading beyond comprehensive school, were followed across six time points until they were 26 years old. At ages 16, 17, 18, 21 and 23, they were asked to appraise their career goal-related success expectations, effort and stress, and finally, at age 26, they filled in a questionnaire measuring their dimensions of career identity development, including career commitment making, identification with career commitment, career exploration in breadth, career exploration in depth, and ruminative career exploration. The participation rates for the data collection waves (T2–T6) were 93.4%, 85.0%, 71.1%, 68.0% and 70.7%, respectively.

First, developmental trajectories related to the career goal appraisals were investigated. The results showed that across the participants' development from age 16 to 23, career goal success expectations increased, thus supporting Hypothesis 3.1. According to Hypothesis 3.3, constant development from age 16 to 23 was expected, but the results did not support this hypothesis, and a slight linear growth in career goal effort was detected. Due to a lack of long-term longitudinal research, it was not possible to formulate a hypothesis for the developmental trajectory of career goal stress. The results revealed that career goal-related stress increased from age 16 to 23.

Second, the association between career goal appraisal trajectories and career identity development was investigated. In line with Hypothesis 3.2, the positive change in career goal success expectations predicted adaptive career identity development as captured by the dimensions of career commitment making, identification with career commitment, and career exploration in breadth at age 26. Furthermore, in line with Hypothesis 3.4, both the initial level and development of career goal effort were positively related to adaptive career identity development as captured by the dimensions of career commitment making, identification with career commitment, and career exploration in breadth at age 26.

Finally, in line with our Hypothesis 3.5, both the initial level and increase in career goal stress were positively related to maladaptive and inadequate career identity development as captured by the reconsidering type of in-depth career exploration and ruminative career exploration.

## 4 DISCUSSION

The research focused on Finnish adolescents' and young adults' career-related personal goal pursuit, their related identity development and their well-being using both person-oriented and variable-oriented methods. The aim was to study young people's personal goal contents and appraisals, how these motivational constructs were related to identity development and specifically to career identity processes, and how personal goals and identity were related to subjective well-being. The developmental regulation processes of channelling, choice and compensation described in the life-span model of motivation were demonstrated in young people's personal goal pursuits (Salmela-Aro, 2009). Moreover, the results were in line with the conceptualisation of phase adequate engagement (Dietrich et al., 2012), supporting the proposition that personal goal pursuit and identity development are part of the same developmental process.

The results showed, using the person-oriented method, that the majority of the adolescents' personal goal contents were related to education, career and social relations, and thus to normative developmental tasks. Further, the results showed that a small group of adolescents had self-focused, ruminative types of personal goals and that these adolescents were the most burned out, had more symptoms of depression, and the lowest life satisfaction and self-esteem compared with the other groups.

Furthermore, the results of the person-oriented approach revealed five identity profiles among Finnish young adults: *Moderate achievement*, *Moderate diffusion*, *Achievement*, *Diffused diffusion*, and *Reconsidering achievement*. These identity profiles were related to subjective well-being, to career goal appraisals in a cross-sectional analysis, as well as to the contents of young adults' personal goals both in the cross-sectional analysis and longitudinally.

Finally, specifically regarding career-related personal goals and career identity development, the results showed long-term developmental trajectories in career goal appraisals from adolescence to adulthood and how these were related to exploration and commitment processes of career identity development in young adulthood. The trajectories of career goal appraisals of success

expectations, effort and stress were investigated, and the results showed that both initial levels and changes in these appraisals were meaningfully related to career identity development. More specifically, career goal success expectations and career goal-related effort increased throughout adolescence and young adulthood, and this change in success expectations and effort positively predicted adaptive and adequate career identity development depicted as career commitment making, identification with career commitment, and career exploration in breadth. Nonetheless, career goal-related stress also increased throughout adolescence and young adulthood, and this change positively predicted maladaptive and inadequate career identity development characterised by reconsidering in-depth career exploration and ruminative career exploration.

## 4.1 Profiles in adolescent and young adult development

Using person-oriented methods, the research targeted two areas with respect to the profiles that could be identified among Finnish adolescents and young adults: first, personal goal contents, and second, identity development. In the following sections, the characteristics of each profile group are presented one by one, describing these groups in a more detailed way while also discussing the results pertaining to the goal contents and their appraisals, rumination, and subjective well-being according to each profile group.

### 4.1.1 Personal goal profiles

One main objective of the research was to identify profiles based on adolescents' personal goal contents (Research Question 1). Four different profile groups were identified and these groups were labelled according to their most central personal goal: (1) *Property* (40%), (2) *Vocation* (24%), (3) *Social relationships and future education* (23%), and (4) *Self-focused* (13%).

The largest group of adolescents had the profile named *Property*, since they had more goals related to wealth, standard of living or money, and equally as many goals related to their present education. On the other hand, they had distinctly fewer personal goals related to future education, their own health, their way of living and personal relationships than adolescents in the other profile groups. In the *Property* group goal content group, two-thirds of the participants were boys. Life satisfaction and self-esteem were found to be higher among these adolescents than in the *Social relationships and future education* and *Self-focused* profile groups.

Adolescents in the *Vocation* group had personal goals related to work, profession, and becoming a professional, as well as to success in working life. They also had personal goals related to present education, way of life, use of time, success, adaptation, and happiness. These adolescents had less personal goals with respect to future education and property. This group consisted of one-fourth of the sample and the adolescents were mainly boys (60%). Compared to

the other profile groups, these adolescents were the least exhausted with school work. The goals of these adolescents were concrete and the content of their goals delicately reflected their sense of appreciation of their vocational know-how.

The personal goals in the *Social relationships and future education* profile group were related to relationships—friends, dating, and family—as well as to their future education. These adolescents also had personal goals pertaining to their present education and their health. One-fourth of the sample were attributed this profile and 68% were girls. The adolescents in this group experienced more academic burnout in emotional exhaustion dimension compared to those in the Property and Vocation goal content groups, but these adolescents' experience of cynicism or inadequacy in schoolwork was on a par with the overall mean. Life satisfaction was high in this profile group. The personal goals of the adolescents with this profile can be described as concrete and particularly flexible. Notably, a higher level of ambition was reflected among the personal goals of these adolescents compared to those in the Property and Vocation profile groups. These adolescents seemed to be motivated to continue their education.

In line with the life-span model of motivation (Salmela-Aro, 2009), the adolescents' nominative developmental tasks were reflected in the personal goals of these three profile groups. Specifically, the results reflected the Havighurst (1948) developmental tasks of developing close relationships with peers of the same and opposite gender, preparing for an occupation, and preparing for marriage and family life, thus supporting Hypothesis 1.1. These results are in line with empirical findings on young adults (Salmela-Aro et al., 2007; Salmela-Aro & Nurmi, 1997) stating that young people who have personal goals regarding relationships and family as well as education also have higher subjective well-being and fewer symptoms of depression than other young people.

The largest group of the 17-year-old adolescents were part of the *Property* profile group. They had more personal goals related to wealth and money, reflecting the mostly materialistic values of their goal contents. There is substantial evidence showing that people who place a high priority on materialistic goals and values consume more products, have more debt, have lower-quality relationships, have adverse education and work motivation, and report lower subjective well-being (for a review, see Kasser, 2016). Earlier unpublished findings on this profile group have shown that adolescents in the Property group dedicate less effort to their career-related personal goal compared to other groups, demonstrating the possibly unfavourable academic and work motivation (Riuttala, 2006). In any case, longitudinal research is needed in further investigating the consequences of such materialistic goals during adolescence.

Finally, the fourth profile was distinct from the other three. The personal goals in this small profile group were not directed outward to the world but rather inward, toward the self, justifying Hypothesis 1.2. The *Self-focused* profile group had personal goals related to personal growth, becoming an independent person, and managing life. Their goals were shaded with negativity, and thus

resampled as ruminative in content. This group was small in size, with only 13% of the sample belonging to it. Most of the adolescents in the Self-focused group were girls (71%). In line with Hypothesis 1.3, subjective well-being within this group was found to be poor. These adolescents reported more academic burnout in all three dimensions: emotional exhaustion, cynicism, and feeling of inadequacy. As such, they had more symptoms of depression than the adolescents in the other profile groups. Furthermore, almost every second person with this profile had a clinically significant number of symptoms of depression. Finally, life satisfaction and self-esteem were also lower than in the other groups.

The results showed that well-being was low in the Self-focused profile group. This is in line with earlier findings (Salmela-Aro et al., 2001, 2007; Salmela-Aro & Nurmi, 2004), which have shown that personal goals that are ruminative and related to one's personality development are associated with low well-being, low self-esteem, mental health problems, and burnout. In line with rumination theory, ruminative self-related personal goals have been found to be tainted by negativity, supporting the statement that rumination is a style of thought (Joormann & Vanderlind, 2014). Nolen-Hoeksema et al. (2008) stated that rumination is thinking negatively about the implications, causes and meanings of a negative mood state. Longitudinal research is needed to find out whether negative mood possibly related to depression or burnout might "spill over" to personal goals when an individual formulates a personal goal that aims to find out the implications, causes and meaning of the negative mood.

All in all, Study I, with its personal goal profiles, contributed further to information on the relations of personal goals in adolescence. The profiles showed that adolescents have multiple goals and that the personal goals are not mutually exclusive.

#### 4.1.2 Identity profiles

As a second main aim of the research, Study II identified Finnish young adults' identity profiles and validated these profiles according to well-being and career goal appraisals. The study also examined the extent to which different identity profiles related to the kinds of personal goals and concerns young people set at the onset of the transition to adulthood.

All together five identity formation profiles were identified (Research Question 2), and by comparing these against earlier findings and validation measures the profiles were labelled: (1) *Moderate achievement* (44%), (2) *Moderate diffusion* (30%), (3) *Achievement* (14%), (4) *Diffused diffusion* (9%), and (5) *Reconsidering achievement* (3%). Overall, only partly similar identity formation profiles were found, as reported earlier (Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015). This was not in line with Hypothesis 2.1, since the statuses or profiles of foreclosure, searching moratorium and reconsidering moratorium were not detected. The results also showed that the shortened version of the identity development measure used in Study II captured more of the reconsidering type of in-depth exploration. This reconsidering type of in-depth exploration

tion dimension has been reported in previous research as well (Zimmermann et al., 2015).

The results of the research showed that the adolescents with the *Achievement* profile scored the highest of all groups with respect to the dimensions of commitment making, identification with commitment, and exploration in breadth. Further, they scored the lowest of all profile groups with respect to reconsidering in-depth exploration and ruminative exploration dimensions. These young adults were more likely to be studying and working at the same time, and they were less likely to be in full-time work or unemployed compared to other groups.

The subjective well-being within this group was high. Their satisfaction with life and academic engagement were the highest among all of the profile groups, while academic burnout and symptoms of depression were very low compared to other groups. This was in-line with earlier findings (Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015). Achievement group appraised their career goal to be intrinsically motivated, and they were progressing and expected to succeed achieving their goal. Their personal goal contents were more likely to be related to relationships and less likely to be ruminative or self-related lifestyle-oriented personal goals.

The results showed the largest identity profile group to be *Moderate achievement*, with the findings for the identity dimensions being essentially the same as in the Achievement group but with lower levels. The background information did not differ from other groups. In the Moderate achievement group, the subjective well-being was on a good level, and the life satisfaction was the second-highest in the sample and academic engagement reached the same level as in the Achievement group. The symptoms of depression were as low as in the Achievement group, and academic burnout was the second-lowest. Intrinsic motivation was the second-highest in the career goal appraisals, and participants reported progressing and expecting to succeed as much as in the Achievement group. Personal goal contents among these young adults were more likely to be related to relationships and less likely to lifestyle and leisure time.

Furthermore, the results showed that the smallest identity profile group was *Reconsidering achievement*, characterised by having the highest value for reconsidering exploration in-depth as well as high commitment making. All identity dimensions had high scores in this group compared to other groups. This suggests that for these young adults, identity formation is an active process yet to be completed. Although they have made commitments in their life, some reconsidering is taking place. This reconsidering exploration in-depth was also evident in light of the background variables, since these young adults were more likely to study toward achieving the university entrance examination.

Well-being and career goal appraisals did not differ from other identity profile groups. The reconsideration process was also salient in the personal goal contents of these young adults. At age 23, they were more likely to have multiple personal goals in different areas, including education, relationships, lifestyle

and ruminative self, and less likely to have goals pertaining to leisure time and finance. The personal goals within this group changed over the two-year period. At age 25, they were more likely to have personal goals related to leisure time and finance, and less related to relationships, lifestyle and health.

Earlier studies have often labelled a somewhat similar profile as Searching moratorium, describing young people who seem to be willing to change their current commitments regardless of whether they still have these commitments or have already given up on them (Meeus et al. 2010; Schwartz et al. 2011). Nonetheless, the research suggests that it is possible that the Reconsidering achievement profile identified here represents a developmentally different phase. The rationale for this is that in the research, the profile was identified among young adults aged 23 years, who were more likely to be studying to achieve the university entrance examination, having education-related concerns and emerging personal goals, not related to normative developmental tasks, such as self-related lifestyle and/or ruminative self-related personal goals. Thus, it can be suggested that these results show reconsiderations of commitments already made taking place, and thus a step back in the identity formation process.

All in all, among these three identity formation profiles, the personal goal contents reflected the normative developmental tasks proposed by Havighurst (1948). More specifically, the proposed developmental tasks are: develop a stable partnership, learn to live with the partner, establish an independent household, establish a family, care for a family, and start an occupation or career.

The last two profiles reflected more or less maladaptive and inadequate identity formation. Young adults with the *Diffused diffusion* profile had the lowest levels of commitment making, identification with commitment and in-breadth exploration, as well as the highest levels of ruminative exploration and reconsideration of in-depth exploration. The Diffused diffusion profile group did not differ from other identity profile groups in regard to background variables.

The young adults in the Diffused diffusion profile group had a clinically significant number of symptoms of depression and poor satisfaction with life, low academic engagement and high burnout, thus supporting Hypothesis 2.2. This was also in line with earlier findings (Luyckx et al., 2008; Schwartz et al., 2011). In line with Hypothesis 2.3, young adults in the Diffused diffusion group appraised their career goals as progressing at a slower rate than did other profile groups, and their success expectation regarding their career goal was likewise progressed the slowest. In regard to Hypothesis 2.4, it was expected that the Diffused diffusion profile group would reflect maladaptation, manifesting in personal goals that are less optimal for the life phase of the transition to adulthood (Dietrich et al., 2012; Salmela-Aro et al., 2012), and the young adults in this profile pursued fewer relationship-related personal goals both at age 23 and two years later.

Finally, in line with Hypothesis 2.5, the Diffused diffusion profile group was striving toward ruminative self-focused and lifestyle goals, which contin-

ued to persist at the time of the two-year follow-up assessment. Interestingly, both ruminative and non-ruminative self-related personal goals were found among young adults in the Diffused diffusion group. In line with earlier evidence, the ruminative self-related personal goals were expected (Dietrich et al., 2012; Salmela-Aro et al., 2012), but the results also indicated that proactive self-development personal goals were related to maladaptive identity development. Earlier studies have found an association between Diffused diffusion and increased internalising of problems, such as related to anxiety, depression and burnout (Luyckx et al., 2010; Schwartz et al., 2011; Schwartz et al., 2015). These results show that young adults who were found to have a Diffused diffusion identity profile had internalising types of personal goals, and they also had symptoms of depression and academic burnout. All in all, these results indicate that it is adaptive to have personal goals that are aiming toward actions and interactions outside oneself. At the same time, setting goals aimed at changing one's life approach, personal meaning making and self-development is related to diffusion and confusion.

Finally, the other profile showing a somewhat maladaptive identity development was labelled *Moderate diffusion*, having a similar profile as diffused diffusion but less extreme. The profile of this group comes fairly close to findings in earlier studies that have labelled this status *Carefree diffusion* (Schwartz et al., 2011). Individuals with a carefree diffusion profile have been suggested to show only little interest in any kind of identity work (Schwartz et al., 2011). And this commitment-avoiding mode of life seems to be enjoyable (Berzonsky, 1985; Luyckx et al., 2011). Anyhow, the similar profile in the research was not labelled Carefree diffusion due to elevated levels of ruminative exploration indicating that these participants were not "carefree".

Based on the background information, young adults in Moderate diffusion profile group were more likely to have already transitioned to working life, and they were thus more likely to be unemployed compared to the members of the other profile groups. They were also less likely to study and work on the side during the same time period. The subjective well-being measures indicated somewhat poor well-being. Their satisfaction with life and their academic engagement were second-lowest, plus they had an elevated number of symptoms of depression and the second-highest level of academic burnout.

They appraised their career goal to be less intrinsically motivated than did the Diffused diffusion group, and their career goal progress and expectation for success with it were at the second-lowest level of all the groups. The results showed that while the young adults in the Moderate diffusion profile group were striving toward the same personal goals and had the same concerns as would be expected across the whole sample, they had more personal goals related to monetary and material possessions. These results might be explained by the fact that more of the young adults with this profile were either already working full-time or were unemployed. The results might also reflect the materialistic goals and values of this group. This assumption also relates to the lack of intrinsic career goal motivation. All in all, it is possible to assume that this

profile in the research has similarities with the Carefree statuses found in previous studies (Schwartz et al., 2011).

Overall, the results indicate that the Moderate diffusion profile seems to be better adjusted than the Diffused diffusion profile, although an elevated number of symptoms of depression and academic burnout along with lower life satisfaction and lower intrinsic career goal motivation were detected. In general, young adults with maladaptive identity profiles can be expected to face more difficulties during the transition to adulthood (Schwartz et al., 2015), although to a lesser extent among those with the Moderate diffusion profile compared to those with the Diffused diffusion profile. Particularly long-term diffusion has been described to relate to a lack of taking initiative regarding changing one's life, as well as to a decrease in life-related meaning making, the reluctance to make future plans, and experiencing a diminished sense of control (Carlsson, Wängqvist, & Frisé, 2016). On the other hand, it has been proposed that diffusion can support adaptive functioning in today's advanced society that is characterised by globalisation, prolonged schooling and occupational uncertainty (Born, 2007; Sica, Aleni Sestito, & Ragozini, 2014). In this line of thought, a kind of untroubled diffusion may serve as a useful flexible state when long-term decisions and commitments are held back without the development of a coherent identity (Sica et al., 2014).

## **4.2 Personal career goal appraisals associate with career identity development**

Using variable-oriented methods, the third aim of the research was to investigate how career goal appraisals would contribute to identity development, and how career goal appraisals would be related to adaptive and maladaptive career identity development. Study III investigated long-term developmental trajectories in career goal appraisals from adolescence to adulthood, and how these were related to exploration and commitment processes of career identity development in young adulthood. The focus was on the career goal appraisals of success expectations, effort and stress, and the results show that both the initial levels of and changes in these appraisals were meaningfully related to career identity development.

In regard to the development in career goal success expectations, the results suggested a general increasing trend that continues at least until age 23 (Hypothesis 3.1), when many young adults are still in education. Nonetheless, it is also possible in some cases that success expectations slow down across the transition to work (Dietrich, et al., 2012; Tynkkynen, et. al., 2014). Second, the career goal development by means of career goal effort appraisals was examined. The results showed that there was a slight long-term increase in the amount of career goal effort, thus contradicting Hypothesis 3.3. Earlier empirical findings have suggested the possibility of no long-term increase in career

goal effort (Dietrich et al., 2014). Third, the developmental trajectory of career goal-related stress was examined. It was not possible to formulate a hypothesis for the developmental trend of career goal stress due to the lack of long-term longitudinal research. The results showed that career goal stress increased from age 16 to 23. The theoretical implication is that psychological stress appears in relation to the individual and his or her environment (Lazarus, 1991), thus it is possible that the increase in stress regarding career goal pursuit throughout adolescence and young adulthood might be due to growing external demands set by the career transition.

Further, the main aim of Study III was to examine the relation between the development of career goal appraisals and career identity in young adulthood. In line with Hypothesis 3.2, the positive change in career goal success expectations from age 16 to 23 predicted career commitment making, identification with career commitment, and career exploration in breadth at age 26, indicating adaptive career identity development. In line with existing theoretical conceptualisations (Eccles, 2009; Erikson, 1968) and earlier empirical findings (Schwartz et al., 2005), these results suggest that adaptive career identity development benefits from the sense of agency conceptualised as task-specific career goal success expectation. Success expectations are closely related to Bandura's (1997) efficacy expectations (Wigfield & Eccles, 2000). Based on the results, for young people's sense of career and working life identity it is essential that they believe in the possibility of success in their career goal pursuit, and to keep up the belief over the course of career transitions and developments into adulthood.

In line with Hypothesis 3.4, positive change in career goal effort was positively related to adaptive career identity development as seen in the dimensions of career commitment making, identification with career commitment, and career exploration in breadth at age 26. The findings of Study III suggest that effort pays off, as substantial work and usage of timely resources dedicated to the career goal as well as the maintenance and increase of effort across time predicted career commitment making, identification with career commitment, and adaptive career exploration in breadth. Loss of effort is proposed to relate to a believed loss of control over one's own career development (Shane, Heckhausen, Lessard, Chen, & Greenberger, 2012). The results indicate that the continuation of effort may contribute to a clearer sense of one's own career identity and to adaptive career identity development processes.

Interestingly, furthermore, one of the findings was that career goal-related success expectation and career goal-related effort at age 16 were related to in-breadth exploration of career identity nine years later. It is possible that those individuals who, at age 16, have taken an agentic approach toward their education and future working career as well as striving and using their time to advance their career goal pursuit accordingly may be more likely to transition to working life, or are at least at the start of their working career, at age 26. This may also result in a broader exploration of possible future careers and opportunities.

The other possibility is that in-breadth career exploration is due to possible reconsideration processes, described in Crocetti and Meeus' process model of identity development (Crocetti et al., 2008). In that model, reconsideration of commitments is described to be a comparison between current commitments and other possible alternatives and the pursuit to change the present commitments because they are no longer satisfactory. Continuous re-evaluation of one's career-related commitments, a kind of fine-tuning, would also be expected, according to the life-span model of motivation (Salmela-Aro, 2009). The life-span model of motivation proposes that development during young adulthood includes a compensation and adjustment process, where personal goals and strategies are adjusted and commitments reconsidered based on feedback from earlier experiences, other people, and one's context. Unfortunately, in the research, it was not possible to capture a positive type of reconsidering or re-evaluative career exploration in terms of comparisons of an individual's current situation and career commitments with possible alternatives. In the dual-cycle model of identity formation, this is captured by examining positive in-depth exploration (Luyckx et al., 2006). The lack of this measure in the research was due to the use of the shortened version of the Dimensions of Identity Development Scale. Anyhow, further longitudinal research is needed to clear up the issues surrounding possible reconsideration processes among young adults' identity development.

Finally, the maladaptive career goal and career identity process was depicted. In line with Hypothesis 3.5, the growth in career goal stress was positively related to less adaptive career identity processes of reconsidering in-depth career exploration and ruminative career exploration. The results show that stress and emotional strain experienced in career goal pursuit possibly add to uncertainty and worry in career identity development, resulting into maladaptive career identity development during the transition to adulthood.

### **4.3 Integrating models of personal goals and identity development**

The theoretical conceptualisation of phase-adequate engagement integrates literature on personal goals as well as career and personal identity development by stating that young people act adaptively when they intentionally engage in behaviours—such as goal pursuit and identity negotiation—which are appropriate to meeting the demands posed by a developmental transition (Dietrich et al., 2012). This conceptualisation articulates that engagement is phase-adequate when it maximises the opportunities for transition success and minimises potential transition-related costs.

Few other scholars have emphasised and approached the relation between the regulation of identity development and motivational goal pursuit. Eccles (2009) theoretically considered how expectancy-value theory is related to iden-

tity development. She has proposed that the individual plays an agentic role when he or she constructs beliefs about his or her own abilities and characteristics and then, further down the line, selects those activities for which he or she has the highest expectations for success. As such, it is proposed that success expectations feed into identity development (Eccles, 2009), and thus high and increasing success expectations would be adequate for adaptive identity development.

Furthermore, Oyserman and James (2011) have approached goal pursuit through their concept of *possible selves*, and they integrated this concept with identity development theory by proposing *possible identities*. Possible identities are the positive and negative identities one might hold in the future, and these identities provide a goal post for current action and assist in making sense of experience. Oyserman and James proposes that the direction of influence is mainly flowing from identity to well-being and motivation, and not the other way around.

In that model, the conceptualisation of phase-adequate engagement in adolescence and young adulthood includes: transition awareness, identity and goal crystallisation, transition management, goal and strategy adjustment, and reflection (Dietrich et al., 2012). Study I indicated that adolescents are aware of the upcoming transition both with respect to their career development and broader life context as they formulate personal goals related to normative developmental tasks. This possibly contributes to identity crystallisation when personal goals are clarified. Goal and identity crystallisation possibly take place during the choice making (Salmela-Aro, 2009) and identity commitment formation (Luyckx et al., 2006, 2008) phases. The results in this research are in line with this proposition.

Study II showed a relation between identity development and personal goal contents. Considering phase-adequate engagement, it is adaptive to have an achievement, moderate achievement or even reconsidering achievement identity profile as well as personal goals that are related to normative developmental tasks of young adulthood.

Furthermore, the phase-adequate engagement model suggests that, for young people, it is adaptive and adequate to set career goals, to form a career identity, to actively pursue such goals and realise one's career identity, and if necessary reconstruct one's goals and adjust identity commitments (Dietrich et al., 2014). Study III showed that adequate career goal success expectations and effort regarding career goal pursuit contribute to adaptive and adequate career identity development in the dimensions of career commitment making, identification with career commitment, and adaptive in-breadth career exploration. This indicates that not only adaptive but also maladaptive career goal pursuit and career identity processes act together as young people transition from adolescence to adulthood. This supports the conceptualisation of phase-adequate engagement, stating that both career goal regulation and career identity development describe the process of young people's career development (Dietrich et al., 2012).

The research also shed light on less adequate engagement in possible attempts of adjusting personal goals and identity development processes. According to Study II, the Diffused diffusion profile, which features multiple self-focused personal goals and a lack of relationship-related personal goals, can be considered inadequate and not in line with societal demands and expectations. These individuals seem to be willing to explore possibilities during the transition to adulthood, but perhaps for different reasons; they seem to focus their attention on themselves in the process and engage in rumination. It has been suggested that processes of this kind can lead to difficulties in forming a solid definition of the self and to persistent worrying about the future (Luyckx, Teppers, Klimstra, & Rassart, 2014). Although, it has also been suggested that it may sometimes be necessary to live through and experience a moratorium phase and await the eventual arrival of commitments (Luyckx et al., 2010), both Studies I and II suggest that the appearance of rumination both in individuals' personal goal pursuit and identity development relates to inadequate engagement in the transition to adulthood, and this further relates to poor subjective well-being. Study II also indicated that affected individuals' rumination regarding personal goal contents did not change over the two-year period examined; specifically, individuals with the Diffused diffusion profile did not begin to formulate goal contents related to normative developmental tasks during the follow-up. Furthermore, in Study III, stress related to career goals showed an increase by the time of the ten-year follow-up measurement and related to maladaptive ruminative career exploration and reconsidering in career identity development.

All in all, this research contributes to the existing understanding of adolescents' and young adults' psychological development, providing more information on the relations between personal goal pursuit and identity development, and proposing that they are part of the same developmental processes.

Moreover, the research underlined the importance of person-oriented research in psychology and related fields. This type of research provides more nuanced information on different subgroups of adolescents' and young adults' profiles regarding personal goals and identity development. Findings in person-oriented research indicate that important information might not be captured when studying variable-oriented collective means in large populations. Person-oriented profiles help to identify meaningful combinations of different processes or features. The present person-oriented research practice provides substantial value regarding practical implications.

#### **4.4 Practical implications**

The results of the research have some practical implications. The findings have revealed person-oriented information on personal goal pursuit, identity development and subjective well-being during adolescence and young adulthood. Person-oriented information is particularly beneficial to policymakers and prac-

tioners working with adolescents and young adults. Rather than merely presenting mean values, the person-oriented approach offers more detailed and data driven information on subgroups and the indicators that are related to each subgroup specifically. The research offers several sources that can assist practitioners in identifying adolescents and young adults who are most in need of treatment or preventive help.

Examining young people's personal goals as such offers an advantage to practitioners by enabling them to analyse, discover and discuss individuals' motivation and identity contents and processes. Practitioners can pay attention to whether or not individuals' personal goals involve actions and interactions outside themselves, and in particular whether or not their personal goals relate to their current developmental tasks and broader scope in life. The research indicated that if personal goals are self-related, involving either positively focusing on self-development or negatively ruminating, then poor subjective well-being and also identity confusion could build up. Rumination, in particular, was found to be a vulnerability factor. Based on the findings of this research, it can be suggested that if rumination is present either in an individual's identity formation process or regarding personal goal contents, then a treatment type of intervention would be the most appropriate approach as it was detected that a clinically significant number of symptoms of depression were always associated to the presence of rumination.

Further, the results indicated that stress related to career goals also impairs career identity development. The more stressful a career goal is experienced to be, the more it contributes to reconsideration and rumination in career identity exploration processes.

In order to aid in identifying self-related personal goals, some more examples may be helpful. Quite often, the self-related lifestyle or self-development goal was simply "to be happy" or "to enjoy life". It can also be expressed as the aim "to keep the rhythm" or simply "having a balanced day-to-day life". It can also relate to the future, described as the wish "to fulfil my dreams" or the notion of "let's see what the future holds". Those personal goals that were classified as ruminative self-related goals may seem as if they are quite the same as the self-development goals, but the former include the pursuit of becoming better or fixing something in the current self. Ruminative self-related personal goals were, for example, "to be stronger", "to develop myself", "to be more energetic", "to grow as a person" and "to remember not to stress too much".

It also needs to be noted that a large group of adolescents was found to have mainly materialistic personal goals such as aiming to get rich and to have more money and material possessions. Practitioners need to be aware of the findings that materialistic goals and values have been found to relate to adverse work and educational motivation and lower well-being as well as lower quality interpersonal relationships (Kasser, 2016). In general, it can be expected that it might be beneficial to divide personal goals into different important life domains in order to attain and maintain balance.

One of the main findings of considerable practical significance was that all together around 40% of studied Finnish young adults had a diffused identity at age 23. Simplified, a person with a diffused identity is someone keeping life on hold and just waiting for things to happen to him or her (Carlsson et al., 2016). An individual with a diffused identity can be whatever current influences shape him or her to be, being extremely flexible and adaptable (Kroger & Marcia, 2011). But this also means that individuals with a diffused identity must look externally to define who they are, and their inner sense of self-definition is dormant. This can result in the experience of being lost and isolated, accompanied with feelings of emptiness and meaninglessness (Kroger & Marcia, 2011). It has been reported that diffusion is apparent in the individual's approach to changing life conditions, how much he or she engages in meaning making, and how he or she directs his/her own life (Carlsson et al., 2016). Among diffused young adults, there are those who are troubled by this experience of confusion as well as those who are not.

In this research and in line with previous research (Crocetti et al., 2008; Luyckx et al., 2008; Schwartz et al., 2011), identity diffusion was found to relate to heightened symptoms of depression and decreased satisfaction with life. Also, academic engagement was impaired and career goal-related motivation low in line with previous research (Luyckx et al., 2010; Waterman, 2004). Difficulties in defining one's identity is related to difficulties in perceiving oneself as an adult supported by a validating adult community (Côté & Levine, 2002; Sica et al., 2014). These societal levels of identity diffusion have been recognised in Finland as a lot of public attention has been paid to youth loneliness and problems with well-being, especially in terms of alienation, marginalisation and social exclusion.

For practitioners, it is important that diffused identity is recognised. This research provides a relevant resource for recognising identity statuses by presenting the personal goal contents that are related to each identity profile. The young adults who were found to have a Diffused diffusion profile had more self-development and ruminative self-related personal goals and work-related goals compared to their peers in other profile groups. Another notable finding was that young people with a Diffused diffusion profile had less relationship-related personal goals than their peers in other groups. Reported relationship-related personal goals were, for example: "dating", "to put more effort into my relationships", "to get married" and "to have children". In the Moderate diffusion profile group, young adults had more personal goals related to money, finance and material possessions compared to their peers in other groups.

Intervention programmes are needed for young adults with a diffused identity in order for them to capitalise on opportunities presented in their context and to navigate their own lives. It has been reported that such interventions promote identity consolidation (Schwartz et al., 2011; Sica et al., 2014), support engagement in the exploration of possible selves (Sica, 2009), and promote the identification of adult roles and commitments (Schwartz et al., 2005). Furthermore, interventions that strengthen individuals' readiness to act on opportuni-

ties as well as their readiness and capacity to deal with barriers and setbacks when pursuing desired goals (Koivisto, Vuori, & Vinokur, 2010; Sweeny, Carroll, & Shepperd, 2006) have been deemed necessary.

In Finland, there are many new ongoing initiatives taking place that aim to promote young people's well-being and to prevent alienation and social exclusion. For example, there are currently two grand prize competitions offering awards of over 1 million Euros in order to generate concepts that can improve young people's well-being and solve Finland's key challenges. These two great competitions are *Builders of the Century* (Vuosisadan Rakentajat, 2017) and *Ratkaisu 100* (Sitra, 2017). Builders of the Century is a prize competition sponsored by 40 Finnish foundations and trusts aiming to improve young people's well-being and to enable them to participate in society more fully now and in the future. Ratkaisu 100 is also a prize competition challenge, aiming to solve one of Finland's key future challenges, and there are competitors that are aiming to solve the worrying situation concerning Finnish youth development. Further, *Youth Guarantee* (Nuorisotakuu, 2017) is a European Commission and governmental sponsored programme that aims to help young people gain access to education and employment. Finally, there is a newly established foundation, the *We Foundation* (Me-säätiö, 2017; note that "me" is actually the Finnish word for "we"), founded by gaming companies' entrepreneurs aiming to diminish social inequality and the marginalisation of children, youth and families in Finland. One of the projects that the We Foundation is financing is called *Sekasin-chat* (Finnish Association for Mental Health, 2017; the word "sekasin" is Finnish for "confused"), which is a chat where young people can reach a trained volunteer or mental health professional and talk about any matter or pose a question at any time of the day, any day of the year.

The presence of self-related rumination in goal pursuit and ruminative exploration in identity development can be used as an indicator of maladaptive engagement in the transition to adulthood. This finding is particularly important for career counselling, educational support staff at schools, universities and other educational institutions. Furthermore, evidence-based interventions aiming to address rumination in individuals' personal goal pursuit and in identity exploration should be developed further and implemented. Finally, policymakers need to be aware of the challenges as well as what can be seen as adaptive development during young people's transition from adolescence to adulthood.

#### 4.5 Limitations and future direction

The findings of the research is subject to several limitations. There were limitations with respect to the two samples used. Sample 1 was a cross-sectional data set, but a longitudinal study would be needed to investigate the development and formation of personal goal profiles. A longitudinal study would also enable the possibility of examining the causality of subjective well-being and personal

goals, such as whether or not it is the symptoms of depression and burnout that lead to the formation of self-related personal goals. A longitudinal data set would enable studying the direction and mechanism in the process, such as whether it is the mood that shapes the personal goal to be ruminative or vice versa, and whether depression causes burnout or vice versa, and other such processes.

Sample 1 was collected from two distinct areas of Finland and from both high school and vocational school students. While this diversity of the data is a strength at the national level, further research is required regarding different cultures since some of the findings in this research might be due to the Finnish cultural context, thus affecting the generalisability of the findings.

Sample 2, despite good participation rates, had some attrition that may have affected the results regarding some of the variables over its longitudinal course. Specifically, those who remained in the study were more likely to be girls, appraised their career goal as progressing better, had career goals that were more intrinsically motivated, and had higher success expectations regarding their career goal than those who dropped out. Those who remained also reported greater satisfaction with life.

Furthermore, the data were collected using only self-report measures. Although self-report measures were adequate for the variables examined, there is still the possibility that this caused an increase with respect to shared method variance. Also, in Study I, the effect sizes were relatively small. However, when a sample size is large, small effects can also be statistically significant (Cohen & Cohen, 2001). In practice, this means that when the small effects within the group accumulate on a societal level the problems become observable and possibly extensive.

Moreover, in Studies II and III, it was possible to use only a short form of the Dimensions of Identity Development Scale, and this questionnaire captured only the somewhat ruminative reconsideration type of in-depth exploration introduced by Zimmermann et al. (2015) and not the type of in-depth exploration that leads to better understanding. This deficiency leaves out an important part of identity development, particularly in the area of meaning making in life.

Further, in Study II, the latent profile analysis yielded two possible latent profile solutions, and hence some uncertainty remains over our choice of a solution. In Study III, using Latent Growth Curve Analysis, a significant variation around the slopes of career goal appraisals of effort and stress was detected. This possibly indicates that there might be individual differences in the pathways of effort and stress development in the transition to adulthood. Since this was not in the scope of Study III, future research should consider different types of effort and stress pathways.

Furthermore, personal goals were studied broadly and in the context of developmental tasks, but identity was studied by either focusing only on general life explorations and commitments or on career identity. Other contexts of identity development should be studied as well, including relationships, spare

time and others. In identity development, the context should also be taken into consideration more carefully.

Finally, both general identity development and career identity development were studied at only one time point, thus changes in the identity formation profiles could not be examined. Also, if the career identity development would have been measured across the years simultaneously with the career goal appraisals, we would have been able to form predictions of the direction of the effects. Thus, future research is needed to study how the career identity processes of career exploration and career commitment predict career goal success expectations, effort, and stress. More research is also needed regarding the conceptual overlap between identity and personal goal processes in relation to the transition to adulthood.

All in all, an ideal research project on personal goals and identity development would tackle understanding more of the nuances of reconsideration processes and meaning making related to both identity formation and personal goal pursuit. Another very interesting topic for research would be the processes related to carefree or moderate diffusion identity, specifically whether such processes are adaptive in today's society or instead pose a threat of alienation. Moreover, it would be important to examine how to promote life and career flexibility as well as tolerance of uncertainty among young people, so that the pursuit of meaningful personal goals would still be possible.

## 4.6 Conclusions

The research focused on Finnish adolescents' and young adults' personal goal pursuit, identity development, and subjective well-being. The aim was to study young people's personal goal contents and appraisals, and how these motivational constructs of personal goal contents and career goal appraisals are related to general identity and career identity development as well as subjective well-being. The theoretical basis for this research has its origins in the developmental regulation theories of the life-span model of motivation (Nurmi, 2004; Salmela-Aro, 2009), the conceptualisation of phase-adequate engagement (Dietrich et al., 2012), and the dual-cycle model of identity development (Luyckx et al., 2006, 2008).

In conclusion, the research increased our understanding of young people's adaptive as well as maladaptive development during the years from adolescence to young adulthood. Maladaptive development was associated to both ruminative self-related personal goals and ruminative identity exploration. Both of these were related to a clinically significant number of depressive symptoms, high burnout, and low academic engagement as well as low satisfaction with life. Further, regarding the process of career goal stress, the more the stress increased over time the more it predicted confusion and maladaptive career identity development of reconsidering in-depth career exploration and ruminative career exploration.

Finally, the findings of the research show that the majority of adolescents formulated personal goals that reflected their developmental tasks and that these personal goals were related to their subjective well-being. Furthermore, the research revealed identity development profiles among Finnish young adults. Adequate engagement in the transition to adulthood was demonstrated by achieved and moderately achieved identity profiles. These profiles were related to personal goals congruent with normative developmental tasks as well as subjective well-being. Finally, positive development in success expectations as well as in effort related to committed and adaptive career identity development. This gives insight into career identity development increasing individuals' focus on career goal regulations that are impacting the experience of oneself as a worker or future worker.

## YHTEENVETO (SUMMARY)

### **Elämän- ja työuravalinnat: Nuorten ja nuorten aikuisten henkilökohtaiset tavoitteet, identiteetin kehitys ja hyvinvointi**

Tutkimuksen tarkoituksena oli lisätä ymmärrystä suomalaisten nuorten ja nuorten aikuisten tavoitteiden asettamisesta ja identiteetin kehityksestä sekä näiden tekijöiden yhteydestä heidän koettuun hyvinvointiinsa. Tutkimus selvitti nuorten ja nuorten aikuisten elämään ja työuraan liittyviä tavoitteita, motivaatiota ja hyvinvointia. Uravalinnat ja identiteetin muodostaminen ovat keskeisimmät kehitystehtävät nuoruudessa ja varhaisaikuisuudessa (esim. Porfeli, Lee, Vondracek & Weigold, 2011). Toisaalta länsimainen yhteiskunta korostaa yksilöllisyyttä ja omien valintojen tärkeyttä aikana, jota kuvaa globalisaatio, pitkittynyt koulutus ja työmarkkinoiden epävarmuus (Sica, Aleni Sestito & Ragotzini, 2014). Tästä johtuen identiteetin muodostaminen on monimutkaisempaa kuin aikaisemmin (Côté & Levine, 2002). Toisin sanoen identiteetin etsinnän mahdollisuudet ovat avoimina, mutta vaativat myös aktiivisesti tehtyjä valintoja. Työn teoreettinen viitekehys yhdisti motivaation elämänkaarimallia (Nurmi, 2004; Salmela-Aro, 2009) elämänvaiheeseen tarkoituksenmukaisten sitoutumisten mallia (Dietrich, Parker & Salmela-Aro, 2012) sekä identiteettikehityksen kaksosyysklimallia Luyckx et al., 2006, 2008).

Tutkimuksen tarkoituksena oli selvittää yksilöiden kehityksellisiä, motivaationaalaisia ja identiteetin muodostamisen eroja: 1) Millaisia ryhmiä nuorten henkilökohtaisten tavoitteiden sisällöistä voidaan tunnistaa? Miten nämä tavoiteryhmät ovat yhteydessä nuorten hyvinvointiin? 2) Millaisia identiteettiprofiileja eli identiteettistatuksia suomalaisilla nuorilla aikuisilla voidaan tunnistaa? Miten identiteettiprofiilit ovat yhteydessä nuorten aikuisten henkilökohtaisten tavoitteiden sisältöihin pitkittäisaineistossa? 3) Miten suomalaisten nuorten aikuisten työuratavoitteen menestysodotukset, vaivannäkö ja stressaavuus kehittyivät kuuden vuoden seurannan aikana, ja miten nämä ovat yhteydessä työidentiteetin muodostumiseen?

Tutkimuksen aineisto koostui Finnish Educational Transitions Studies -pitkittäistutkimusprojektin (FinEdu, 2013) aineistosta, ja tutkimuksessa käytettiin kahta otosta. Ensimmäinen otos oli poikkileikkausaineisto, joka käsitti 1144 toisen asteen koulutuksessa opiskelevaa nuorta (naisia 565, 49 %; ammatillisessa koulutuksessa 536, 47 %; ikä: keskiarvo 17,4 vuotta, keskihajonta 1,2 vuotta). Tutkimuksen toinen otos koostui vuonna 1988 syntyneistä suomalaisista nuorista, jotka olivat yläkoulun yhdeksäsluokkalaisia tutkimuksen alussa (n = 699; naisia 322, 48 %) ja joita seurattiin 26-vuotiaaksi asti.

Tutkimuksessa hyödynnettiin sekä laadullisia että määrällisiä menetelmiä, sekä henkilö- että muuttujasuuntautunutta tutkimusotetta. Laadullinen aineisto koostui nuorten ja nuorten aikuisten itse ilmoittamista henkilökohtaisista tavoitteista ja projekteista (Salmela-Aro, 2001). Projekteja tutkittiin sisällönanalyysillä, ja sisältöluokista muodostettiin henkilökohtaisten tavoitteiden profiileja (osatutkimus I).

Määrällisillä menetelmillä tutkittiin nuorten aikuisten opiskelu- ja uratavoitteen motivaatiotekijöitä: koettua tärkeyttä, vaivannäköä, edistymistä, menestysodotuksia sekä stressaavuutta. Tutkimuksessa selvitettiin näiden motivaatiotekijöiden yhteyttä yleiseen identiteetin kehitykseen (osatutkimus II) ja työidentiteetin kehitykseen pitkittäistutkimuksessa (osatutkimus III). Kaikkiin elämänvalintoihin liittyvää identiteettiä tutkittiin uudella identiteettimittarilla (Luyckx et al., 2008), jolla on mahdollista saada aiempaa tarkemmin tietoa identiteettikehityksen prosesseista. Työidentiteetin muodostumista tutkittiin tästä yleisen identiteettikehityksen mittarista sovelletulla työidentiteetin mittarilla (Luyckx, Seiffge-Krenke, Schwartz, Crocetti & Klimstra, 2014).

Näiden lisäksi tutkimuksessa selvitettiin laajasti sekä positiivista että negatiivista hyvinvointia suhteessa nuorten ja nuorten aikuisten tavoitteisiin ja identiteetin kehitykseen, kuten masennusoireita (Salokangas, Stengård & Poutanen, 1994), elämäntyytyväisyyttä (Diener, 1994), itsetuntoa (Rosenberg, 1965), opiskelu- ja työuupumusta (Salmela-Aro, Kiuru, Leskinen & Nurmi, 2009) sekä opiskelu- ja työntöä (Salmela-Aro & Upadaya, 2012). Aineiston analyysissä hyödynnettiin rakenneyhtälö- ja monimuuttujamallinnuksia sekä henkilösuuntauneista menetelmistä klusterianalyysejä ja latenttien profiilien analyysejä.

Ensimmäinen osatutkimus osoitti, että 17-vuotiailla lukion ja ammatillisen koulutuksen opiskelijoilla oli suurimmaksi osaksi koulutukseen, työhön, sosiaalisiin suhteisiin, ammatilliseen osaamiseen ja toimeentuloon liittyviä henkilökohtaisia tavoitteita, jotka olivat heidän normatiivisten kehitystehtävien mukaisia. Lisäksi klusterianalyysi toi ilmi pienen ryhmän nuoria, joilla oli merkittävästi enemmän kuin muilla itseen liittyviä murehtimissävyisiä henkilökohtaisia tavoitteita. Hyvinvointi-indikaattoreita verrattiin löydettyjen tavoiteryhmiin välillä ja tulosten perusteella murehtimissävyiset itseen liittyvät henkilökohtaiset tavoitteet olivat yhteydessä opiskelu-uupumukseen, kliinisesti merkittävään määrään masennusoireita ja matalaan elämäntyytyväisyyteen ja itsetuntoon.

Toinen osatutkimus osoitti, että merkittävällä osalla (40 %) 23-vuotiaista nuorista aikuisista oli selkiintymätön tai osittain selkiintymätön identiteetti. Nuorilla aikuisilla, joilla oli selkiintymätön identiteetti, oli heikoin koettu hyvinvointi ja haasteita motivaatiossa. Tarkemmin ottaen heillä oli opiskeluun ja uraan liittyviä huolia, enemmän masennusoireita, opiskelu- ja työuupumusta sekä matalampaa opiskelu- ja työntöä kuin muilla. Henkilökohtaiset tavoitteet, jotka liittyivät selkiintymättömään identiteettiin, olivat sisällöltään itseen keskittyviä ja näin olleen vähemmän elämäntilanteeseen ja kehitystehtäviin sopivia, niihin mukautuvia ja niitä heijastavia. Nuorilla aikuisilla, joilla oli selkiintymätön identiteetti, oli myös huomattavasti vähemmän kuin muilla hyvien ihmissuhteiden muodostamiseen ja ylläpitämiseen liittyviä henkilökohtaisia tavoitteita.

Kolmas osatutkimus selvitti nuorten aikuisten työidentiteettiä ja sen yhteyttä useita vuosia seurattuun työuratavoitteiden motivaatioon – menestysodotuksiin, vaivannäköön ja uratavoitteen stressaavuuteen. Tulosten perusteella nuorten siirtyessä toisen asteen koulutuksesta jatko-opintoihin ja työelämään uratavoitteessa menestymiseen liittyvät odotukset voimistuivat. Positiivinen

kehitys menestysodotuksissa ennusti sitoutunutta ja selkeää työidentiteettiä 26-vuotiaana. Niin ikään uratavoitteen eteen nähtiin vaivaa koko ajan enenevästi nuorten kehittyessä 16 vuoden ikäisistä 23-vuotiaiksi. Positiivinen kehitys vai-vannäössä ja panostuksessa ennusti selkeää ja sitoutunutta työidentiteettiä 26-vuotiaana. Toisaalta myös uratavoite koettiin enenevästi stressaavaksi kehityk-sen kuluessa, ja mitä voimakkaammin uratavoite koettiin stressaavana, sitä sel-keämmin se ennusti huonosti sopeutuvaa identiteettiä ja negatiivisävyistä työ-identiteetin etsintää.

Johtopäätöksenä voidaan sanoa, että nuorilla aikuisilla identiteetin muo-dostuminen jatkuu yli 20. ikävuoden. Elämään ja myös työuraan liittyvien va-lintojen runsaus on yhteydessä suureen määrään selkiintymättömiä identiteet-tejä ja näiden elämän valintojen vaikeus heijastuu muun muassa hyvinvoinnin ongelmiin (osatutkimus II). Lisäksi tutkimus lisää tietoa työuratavoitteiden mo-tivaation ja työidentiteetin yhteyksistä (osatutkimus III). Tulosten perusteella nuorten aikuisten henkilökohtaisten tavoitteiden muodostamista ja asettamista realistiselle tasolle on tarpeellista edistää, vaivannäköön tulee kannustaa ja stressaavuutta hillitä sekä yhteiskunnallisen päätöksenteon että yksilöllisen tu-en tasolla.

Tutkimuksen perusteella on tärkeää tukea nuorten ja nuorten aikuisten positiivista suhtautumista omaan kehittymiseen ja elämässä etenemiseen niin, että usko omiin kykyihin ja pystyvyyteen säilyisi ja kantaisi koulutus- ja työ-elämän siirtymien yli. Tulevaisuudessa olisi tärkeää tukea nuorten ja nuorten aikuisten identiteetin muodostamista tarjoamalla edellytykset vaihtoehtojen selvittämiseen, valintojen tekemiseen ja lopulta valittuun uraan ja elämään si-toutumiseen.

## REFERENCES

- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). Washington: American Psychiatric Publishing.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469–480.
- Arnett, J. J. (2006). *Emerging adulthood: The winding road from the late teens through the twenties*. New York: Oxford University Press.
- Austin, J. & Vancouver, J. (1996). Goal constructs in psychology: Process and content. *Psychological Bulletin*, *120*, 338–375.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization and compensation as the foundation of developmental theory. *American Psychologist*, *52*, 366–380.
- Bandura, A. (1997). *Self-efficacy, the exercise of control*. New York: Freeman.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, *4*, 1–44.
- Beck, A. T. (2008). The evolution of the cognitive model of depression and its neurobiological correlates. *American Journal of Psychiatry*, *165*, 969–977.
- Bergman, L. R. & El-Khoury, B. M. (2001). Developmental processes and the modern typological perspective. *European Psychologist*, *6*, 177–186.
- Bergman, L. R. & El-Khoury, B. M. (2003). A person-oriented approach: methods for today and methods for tomorrow. *New Directions for Child and Adolescent Development*, *101*, 25–38.
- Berzonsky, M. D. (1985). Diffusion within Marcia's identity-status paradigm: Does it foreshadow academic problems? *Journal of Youth and Adolescence*, *14*, 527–538.
- Beyers, W. & Luyckx, K. (2016). Ruminative exploration and reconsideration of commitment as risk factors for suboptimal identity development in adolescence and emerging adulthood. *Journal of Adolescence*, *47*, 169–178.
- Born, A. (2007). Well-diffused? Identity diffusion and well-being in emerging adulthood. In M. Watzlawik & A. Born (Eds.), *Capturing identity: Quantitative and qualitative methods* (pp. 149–162). Lanham, MD: University Press of America.
- Bosma, H. A. & Kunnen, E. S. (2001). Determinants and mechanisms in ego identity development: A review and synthesis. *Developmental Review*, *21*, 39–66.
- Brehm, J. W. & Self, E. A. (1989). The intensity of motivation. *Annual Review of Psychology*, *40*, 109–131.
- Brown, G. W. & Harris, T. (1978). *Social origins of depression*. New York: Free Press.
- Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology*, *65*, 1061–1070.

- Brunstein, J. C., Schultheiss, O. C., & Grassman, R. (1998). Personal goals and emotional well-being: The moderating role of motive dispositions. *Journal of Personality and Social Psychology, 75*, 494–508.
- Burwell, R. A. & Shirk, S. R. (2007). Subtypes of rumination in adolescence: Associations between brooding, reflection, depressive symptoms, and coping. *Journal of Clinical Child & Adolescent Psychology, 36*, 56–65.
- Campbell, W. K. & Sedikides, C. (1999). Self-threat magnifies the self-serving bias: A meta-analytic integration. *Review of General Psychology, 3*, 23–43.
- Cantor, N., Norem, J., Langston, C., Zirkel, S., Fleeson, W., et al. (1987). Life tasks and daily life experience. *Journal of Personality 59*, 425–451.
- Carlsson, J., Wängqvist, M., & Frisé, A. (2016). Life on hold: Staying in identity diffusion in the late twenties. *Journal of Adolescence 47*, 220–229.
- Christiansen, C. H. (1999). Defining lives: Occupation as identity: An essay on competence, coherence, and the creation of meaning. *American Journal of Occupational Therapy, 53*, 547–558.
- Cohen, P. & Cohen, J. (2001). Life values and mental health in adolescence. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 167–181). Göttingen: Hogrefe.
- Côté, J. (2000). *Arrested adulthood: The changing nature of maturity and identity*. New York: New York University Press.
- Côté, J. (2006). Identity studies: How close are we to developing a social science of identity? – An appraisal of the field. *Identity, 6*, 3–25.
- Côté, J. & Levine, C. G. (2002). *Identity, formation, agency, and culture*. London: Psychology Press.
- Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity formation in early and middle adolescents from various ethnic groups: From three dimensions to five statuses. *Journal of Youth and Adolescence 37*, 983–996.
- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence 31*, 207–222.
- Crocetti, E., Schwartz, S. J., Fermani, A., Klimstra, T., & Meeus, W. (2012). A cross-national study of identity status in Dutch and Italian adolescents: Status distributions and correlates. *European Psychologist, 17*, 171–181.
- Crocetti, E., Schwartz, S. J., Fermani, A., & Meeus, W. (2010). The Utrecht-Management of Identity Commitments Scale (U-MICS) Italian validation and cross-national comparisons. *European Journal of Psychological Assessment, 26*, 172–186.
- Crocetti, E., Sica, L. S., Schwartz, S. J., Serafini, T., & Meeus, W. (2013). Identity styles, dimensions, statuses, and functions: Making connections among identity conceptualizations. *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 63*, 1–13.
- Danielsen, L. M., Lore, A. E., & Kroger, J. (2000). The impact of social context on the identity-formation process of Norwegian late adolescents. *Youth & Society, 31*, 332–362.

- de Goede, M., Spruijt, E., Iedema, J., & Meeus, W. (1999). How do vocational and relationship stressors and identity formation affect adolescent mental health? *Journal of Adolescent Health, 25*, 14–20.
- Deci, E. L. & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.
- Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social Indicators Research, 31*, 103–157.
- Diener, E. (2001). Well-being (subjective), psychology of. In N. J. Smelser, J. Wright, & P. B. Baltes (Eds.), *International encyclopedia of the social and behavioral sciences* (pp. 16451–16454). New York: Pergamon Press.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71–75.
- Diener, E. & Suh, E. (2000). *Subjective well-being across cultures*. Cambridge, MA: MIT Press.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276–302.
- Dietrich, J., Andersson, H., & Salmela-Aro, K. (2014). Developmental psychologists' perspective on pathways through school and beyond. In P. Blanchard, F. Bühlmann, & J. A. Gauthier (Eds.), *Advances in sequence analysis: Theory, method, applications* (pp. 129–150). London: Springer.
- Dietrich, J., Jokisaari, M., & Nurmi, J.-E. (2012). Work-related goal appraisals and stress during the transition from education to work. *Journal of Vocational Behaviour, 80*, 82–92.
- Dietrich, J., Parker, P., & Salmela-Aro, K. (2012). Phase-adequate engagement at the post-school transition. *Developmental Psychology, 48*, 1575–1593.
- Dietrich, J., Shulman, S., & Nurmi, J.-E. (2013). Goal pursuit in young adulthood: The role of personality and motivation in goal appraisal trajectories across 6 years. *Journal of Research in Personality, 47*, 728–737.
- Eccles, J. (2009). Who am I and what am I going to do with my life? Personal and collective identities as motivators of action. *Educational Psychologist, 44*, 78–89.
- Eccles, J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J., & Midgley, C. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75–146). San Francisco: Freeman.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology, 51*, 1058–1068.
- Emmons, R. A. (1991). Personal strivings, daily life events and psychological and physical well-being. *Journal of Personality, 59*, 455–472.
- Emmons, R. A. (1997). Motives and life goals. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 485–512). San Diego, CA: Academic Press.
- Erikson, E. H. (1959). *Identity and the life cycle*. New York: International Universities Press.

- Erikson, E. H. (1968). *Identity, youth and crisis*. New York: Norton.
- Fadjukoff, P., Pulkkinen, L., & Kokko, K. (2005). Identity processes in adulthood: Diverging domains. *Identity: An International Journal of Theory and Research*, 5, 1–20.
- Fadjukoff, P., Pulkkinen, L., & Kokko, K. (2016). Identity formation in adulthood: A longitudinal study from age 27 to 50. *Identity: An International Journal of Theory and Research*, 16, 8–23.
- FinEdu (2013). *Finnish Educational Transitions (FinEdu) Studies*. Retrieved from [http://www.helsinki.fi/collegium/english/projects/finedu/FinEdu\\_Description\\_2013.pdf](http://www.helsinki.fi/collegium/english/projects/finedu/FinEdu_Description_2013.pdf).
- Finnish Association for Mental Health (2017). Sekasin-chat. Retrieved from <http://sekasin247.fi/fullpage/feeds>.
- Flum, H. & Blustein, D. L. (2000). Reinvigorating the study of vocational exploration: A framework for research. *Journal of Vocational Behaviour*, 56, 380–404.
- Flunger, B., Marttinen, E., Tuominen-Soini, H., & Salmela-Aro, K. (2016). How do young adults orchestrate their multiple achievement-related goals? Associations of achievement goal orientations with identity formation and goal appraisals. *Research in Human Development*, 13, 342–362.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59–109.
- Galambos, N. L., Turner, P. K., & Tilton-Weaver, L. (2005). Chronological and subjective age in emerging adulthood. *Journal of Adolescent Research*, 20, 538–556.
- Havighurst, R. J. (1948). *Developmental tasks and education* (3rd ed.) New York: McKay.
- Heckhausen, J. (1999). *Developmental regulation in adulthood: Age-normative and sociostructural constraints as adaptive challenges*. New York: Cambridge University Press.
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of lifespan development. *Psychological Review*, 117, 32–60.
- Joormann, J. & Vanderlind, W. M. (2014). Emotion regulation in depression. *Clinical Psychological Science*, 2, 402–421.
- Kasser, T. (2016). Materialistic values and goals. *Annual Review of Psychology*, 67, 489–514.
- Kerpelman, J. L., Pittman, J. F., & Lamke, L. K. (1997). Toward a microprocess perspective on adolescent identity development. *Journal of Adolescent Research*, 12, 325–346.
- Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review*, 82, 1–25.
- Klinger, E. & Cox, W. M. (2011). Motivation and the goal theory of current concerns. In W. M. Cox & E. Klinger (Eds.), *Handbook of motivational counseling: Goal-based approaches to assessment and intervention with addiction and other problems* (2nd ed.) (pp. 1–47). Chichester: Wiley-Blackwell.

- 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.
- Kroger, J. (2007). *Identity development* (2nd ed.). Thousand Oaks, CA: Sage.
- Kroger, J. & Marcia, J. E. (2011). The identity statuses: Origins, meanings, and interpretations. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 31–53). New York: Springer.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lazarus, R. S. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Li, T. M. H., Chau, M., Yip, P. S. F., & Wong, P. W. C. (2014). Temporal and computerized psycholinguistic analysis of the blog of a Chinese adolescent suicide. *Crisis, 35*, 168–175.
- Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behavior, 15*, 273–309.
- Little, B. R. (1989). Personal project analysis: Trivial pursuits, magnificent obsessions, and the search for coherence. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging issues* (pp. 15–31). New York: Springer.
- Little, B. R. (2000). Free traits and personal contexts: Expanding a social ecological model of well-being. In W. B. Walsh, W. B. Craik, & R. H. Price (Eds.), *Person environment psychology: New directions and perspectives* (2nd ed.) (pp. 87–116). Mahwah, NJ: Erlbaum.
- Little, B. R. (2015). The integrative challenge in personality science: Personal projects as units of analysis. *Journal of Research in Personality, 56*, 93–101.
- Little, B. R. & Chambers, N. C. (2004). Personal project pursuit: On human doings and well-beings. In W. M. Cox & E. Klinger (Eds.), *Handbook of motivational counseling: Concepts, approaches, and assessment* (2nd ed.) (pp. 65–82). Chichester: Wiley.
- Little, B. R. & Chambers, N. C. (2011). Personal projects and motivational counseling: The quality of lives reconsidered. In W. M. Cox & E. Klinger (Eds.), *Handbook of motivational counseling: Concepts, approaches, and assessment*. (pp. 73–87). Chichester: Wiley-Blackwell.
- Little, B. R., Salmela-Aro, K., & Phillips, S. (Eds.), (2007). *Personal project pursuit: Goals, action and human flourishing*. Mahwah, NJ: Erlbaum.
- Luyckx K., Duriez B., Klimstra T. A., & De Witte H. (2010). Identity statuses in young adult employees: Prospective relations with work engagement and burnout. *Journal of Vocational Behavior, 77*, 339–349.
- Luyckx, K., Goossens, L., Soenens, B., & Beyers, W. (2006). Unpacking commitment and exploration: Preliminary validation of an integrative model of late adolescent identity formation. *Journal of Adolescence, 29*, 361–378.
- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., et al. (2008). Capturing ruminative exploration: Extending the four-

- dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42, 58–82.
- Luyckx, K., Schwartz, S., Goossens, L., Beyers, W., & Missotten, L. (2011). Processes of personal identity formation and evaluation. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 77–98). New York: Springer.
- Luyckx, K., Seiffge-Krenke, I., Schwartz, S. J., Crocetti, E., & Klimstra, T. A. (2014). Identity configurations across love and work in emerging adults in romantic relationships. *Journal of Applied Developmental Psychology*, 35, 192–203.
- Luyckx, K., Teppers, E., Klimstra, T. A., & Rassart, J. (2014). Identity processes and personality traits and types in adolescence: Directionality of effects and developmental trajectories. *Developmental Psychology*, 50, 2144–2153.
- Magnusson, D. (2003). The person approach: Concepts, measurement models, and research strategy. *New Directions for Child and Adolescent Development*, 101, 3–22.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3, 551–558.
- Markus, H. & Nurius, P. (1986). Possible selves. *American Psychologist*, 41, 954–969.
- Meeus, W., Deković, M., & Iedema, J. (1997). Unemployment and identity in adolescence: A social comparison perspective. *The Career Development Quarterly*, 45, 369–380.
- Meeus, W., Van De Schoot, R., Keijsers, L., Schwartz, S. J., & Branje, S. (2010). On the progression and stability of adolescent identity formation: A five-wave longitudinal study in early-to-middle and middle-to-late adolescence. *Child Development*, 81, 1565–1581.
- Me-säätiö (2017). *The We Foundation*. Retrieved from <http://www.mesaatio.fi/we-foundation>.
- Mor, N. & Winquist, J. (2002). Self-focused attention and negative affect: A meta-analysis. *Psychological Bulletin*, 128, 638–662.
- Muthén, L. K. & Muthén, B. O. (2012). *Mplus user's guide* (7th ed.). Los Angeles: Muthén & Muthén.
- Nagy, G., Köller, O., & Heckhausen, J. (2005). Der Übergang von der Schule in die berufliche Erstausbildung: Wer die Sorgen scheut, wird von ihnen ereilt. *Eitschrift für Entwicklungspsychologie und Pädagogische Psychologie*, 37, 156–167.
- Newmann, F. (1991). Student engagement in academic work: Expanding the perspective on secondary school effectiveness. In J. R. Bliss & W. A. Firestone (Eds.), *Rethinking effective schools: Research and practice* (pp. 58–76). Englewood Cliffs, NJ: Prentice Hall.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3, 400–424.
- Nuorisotakuu (2017). *Youth Guarantee*. Retrieved from <http://nuorisotakuu.fi/en/frontpage>.

- Nurmi, J.-E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review, 11*, 1-59.
- Nurmi, J.-E. (1992). Age differences in adult life goals, concerns, and their temporal extension: A life course approach to future-oriented motivation. *International Journal of Behavioral Development, 15*, 487-508.
- Nurmi, J.-E. (1993). Adolescent development in an age-graded context: The role of personal beliefs, goals, and strategies in the tackling of developmental tasks and standards. *International Journal of Behavioral Development, 16*, 169-189.
- Nurmi, J.-E. (2004). Socialization and self-development: Channeling, selection, adjustment, and reflection. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 85-124). New York: Wiley.
- Nurmi, J.-E., Poole, M. E., & Seginer, R. (1995). Tracks and transitions - A comparison of adolescent future-oriented goals, explorations and commitments in Australia, Israel and Finland. *International Journal of Psychology, 30*, 355-375.
- Nurmi, J.-E., Salmela-Aro, K., & Aunola, K. (2009). Personal goal appraisals vary across both individuals and goal contents. *Personality and Individual Differences, 47*, 498-503.
- Official Statistics of Finland (2016). *Entrance to education*. Helsinki: Statistics Finland. Retrieved from [http://www.stat.fi/til/khak/index\\_en.html](http://www.stat.fi/til/khak/index_en.html).
- Oyserman, D. & James, L. (2011). Possible identities. In S. Schwartz, K. Luyckx, & V. Vignoles (Eds.), *Handbook of identity theory and research*. New York: Springer.
- Oyserman, D. & Markus, H. (1990). Possible selves and delinquency. *Journal of Personality and Social Psychology, 59*, 112-125.
- Porfeli, E. (2008). Career exploration. In F. T. L. Leong (Ed.), *Career counselling* (pp. 1474-1477). Thousand Oaks, CA: Sage.
- Porfeli, E. J. & Lee, B. (2012). Career development during childhood and adolescence. *New Directions for Youth Development, 134*, 11-22.
- Porfeli, E. J., Lee, B., Vondracek, F. W., & Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence, 34*, 853-871.
- Porfeli, E. J. & Savickas, M. L. (2012). Career Adapt-Abilities Scale-USA Form: Psychometric properties and relation to vocational identity. *Journal of Vocational Behaviour, 80*, 748-753.
- Ranta, M., Dietrich, J., & Salmela-Aro, K. (2014). Career and romantic relationship goals and concerns during emerging adulthood. *Emerging Adulthood, 2*, 17-26.
- Riuttala, E. (2006). *Nuorten henkilökohtaisten tavoitteiden profiilit ja subjektiivinen hyvinvointi [Adolescents' personal goal profiles and subjective well-being]*. Master's Thesis. Department of Psychology, University of Helsinki, Finland.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

- Salmela-Aro, K. (1992). Struggling with self. Personal projects of students seeking psychological counselling. *Scandinavian Journal of Psychology*, 33, 330–338.
- Salmela-Aro, K. (2001). Personal goals during the transition to young adulthood. In J. Nurmi (Ed.), *Navigating through adolescence: European perspectives* (pp. 59–84). New York: RoutledgeFalmer.
- Salmela-Aro, K. (2002). Motivaation mittaaminen, esimerkkinä Brian Littlen henkilökohtaisten projektien menetelmä [Measuring motivation: Brian Little's personal project pursuit as an example]. In K. Salmela-Aro & J.-E. Nurmi (Eds.), *Mikä meitä liikuttaa - Modernin motivaatiopsykologian perusteet [What makes us move: The basics of modern motivational psychology]* (pp. 28–39). Jyväskylä: PS-kustannus.
- Salmela-Aro, K. (2009). Personal goals and well-being during critical life transitions: The four C's - Channelling, choice, co-agency and compensation. *Advances in Life Course Research*, 14, 63–73.
- Salmela-Aro, K., Aunola, K., & Nurmi, J.-E. (2007). Personal goals during emerging adulthood: A 10-year follow-up. *Journal of Adolescent Research*, 22, 690–715.
- Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J.-E. (2009). School Burnout Inventory (SBI) - reliability and validity. *European Journal of Psychological Assessment*, 25, 48–57.
- Salmela-Aro, K. & Nurmi, J.-E. (1997). Goal contents, well-being, and life context during transition to university: A longitudinal study. *International Journal of Behavioral Development*, 20, 471–491.
- Salmela-Aro, K. & Nurmi, J.-E. (2001). Henkilökohtaiset projektit ja hyvinvointi [Personal projects and well-being]. In K. Räikkönen & J.-E. Nurmi (Eds.), *Persoonallisuus, terveys ja hyvinvointi [Personality, health, and well-being]* (pp. 89–103). Helsinki: Suomen Psykologinen Seura, Acta Psychologica Fennica - Soveltavan psykologian monografioita, 8.
- Salmela-Aro, K. & Nurmi, J.-E. (2004). Motivational orientation and well-being at work: A person-oriented approach. *Journal of Change Management*, 17, 471–489.
- Salmela-Aro, K., Pennanen, R., & Nurmi, J.-E. (2001). Self-focused goals: What they are, how they function, and how they relate to well-being. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 148–166). Göttingen: Hogrefe.
- Salmela-Aro, K., Read, S., Korhonen, T., Vuoksimaa, E., Rose, R. J., et al. (2012). Young adults' developmental task-related goals modify the association between self-focused goals and depressive symptoms. *Applied Psychology: Health and Well-Being*, 4, 106–125.
- Salmela-Aro, K., Savolainen, H., & Holopainen, L. (2009). Depressive symptoms and school burnout during adolescence: Evidence from two cross-lagged longitudinal studies. *Journal of Youth and Adolescence*, 38, 1316–1327.

- Salmela-Aro, K. & Upadaya, K. (2012). The Schoolwork Engagement Inventory: Energy, dedication and absorption (EDA). *European Journal of Psychological Assessment, 28*, 60–67.
- Salokangas, R. K. R., Stengård, E., & Poutanen, O. (1994). DEPS - uusi väline depression seulontaan [DEPS - new tool for assessing depression]. *Duodecim, 110*, 1141–1148.
- Salomone, P. R. & Mangicaro, L. L. (1991). Difficult cases in career counseling: IV Floundering and occupational moratorium. *The Career Development Quarterly, 39*, 325–336.
- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *Career Development Quarterly, 45*, 247–259.
- Savickas, M. L. (2005). The theory and practice of career construction. In R. W. Lent & S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 42–70). Hoboken, NJ: Wiley.
- Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology, 33*, 464–481.
- Schoon, I. & Parsons, S. (2002). Teenage aspirations for future careers and occupational outcomes. *Journal of Vocational Behavior, 60*, 262–288.
- Schwartz, S. J. (2001). The Evolution of Eriksonian and, neo-Eriksonian identity theory and research: A review and integration. *Identity: An International Journal of Theory and Research, 1*, 7–58.
- Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., et al. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence, 40*, 839–859.
- Schwartz, S. J., Côté, J., & Arnett, J. J. (2005). Identity and agency in emerging adulthood. *Youth & Society, 37*, 201–229.
- Schwartz, S. J., Hardy, S. A., Zamboanga, B. L., Meca, A., Waterman, A. S., et al. (2015). Identity in young adulthood: Links with mental health and risky behavior. *Journal of Applied Developmental Psychology, 36*, 39–52.
- Schwartz, S. J., Kurtines, W. M., & Montgomery, M. J. (2005). A comparison of two approaches for facilitating identity exploration processes in emerging adults: An exploratory study. *Journal of Adolescent Research, 20*, 309–345.
- Seiffge-Krenke, I. & Gelhaar, T. (2008). Does successful attainment of developmental tasks lead to happiness and success in later developmental tasks? A test of Havighurst's (1948) theses. *Journal of Adolescence, 31*, 33–52.
- Shane, J., Heckhausen, J., Lessard, J., Chen, C., & Greenberger, E. (2012). Career-related goal pursuit among post-high school youth: Relations between personal control beliefs and control strivings. *Motivation and Emotion, 36*, 159–169.
- Sheldon, K. M. & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons for goals as predictors of effort and attainment. *Personality and Social Psychology Bulletin, 24*, 546–557.

- Sica, L. (2009). Adolescents in different contexts: The exploration of identity through possible selves. *Cognition, Brain, Behavior: An Interdisciplinary Journal*, *13*, 221–252.
- Sica, L. S., Aleni Sestito, L., & Ragozini, G. (2014). Identity coping in the first years of university: Identity diffusion, adjustment and identity distress. *Journal of Adult Development*, *21*, 159–172.
- Sitra (2017). *Ratkaisu 100*. Retrieved from <https://www.sitra.fi/en/topics/ratkaisu100/>.
- Skorikov, V. B. & Vondracek, F. W. (2011). Occupational identity. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 693–714). New York: Springer.
- Stemmler, M. (2014). *Person-centered methods configural frequency analysis (CFA) and other methods for the analysis of contingency tables*. New York: Springer.
- Stewart, J. G., Mazurka, R., Bond, L., Wynne-Edwards, K., & Harkness, K. L. (2013). Rumination and impaired cortisol recovery following a social stressor in adolescent depression. *Journal of Abnormal Child Psychology*, *41*, 1015–1026.
- Super, D. E. (1957). *The psychology of careers*. New York: Harper & Row.
- Sweeny, K., Carroll, P. J., & Shepperd, J. A. (2006). Is optimism always best? Future outlooks and preparedness. *Current Directions in Psychological Science*, *15*, 302–306.
- Tynkkynen, L., Dietrich, J., & Salmela-Aro, K. (2014). Career goal-related success expectations across two educational transitions: A seven-year longitudinal study. *European Journal of Developmental Psychology*, *11*, 356–372.
- Tynkkynen, L., Tolvanen, A., & Salmela-Aro, K. (2012). Trajectories of educational expectations from adolescence to young adulthood in Finland. *Developmental Psychology*, *48*, 1674–1685.
- Vasalampi, K., Nurmi, J.-E., Jokisaari, M., & Salmela-Aro, K. (2012). The role of goal-related autonomous motivation, effort and progress in the transition to university. *European Journal of Psychology of Education*, *27*, 591–604.
- Vermunt, J. K. & Magidson, J. (2002). Latent class cluster analysis. In J. A. Hagenaars & A. L. McCutcheon (Eds.), *Applied latent class analysis* (pp. 89–106). Cambridge: Cambridge University Press.
- Vignoles, V., Schwartz, S., & Luyckx, K. (2011). Introduction: Toward an integrative view of identity. In V. Vignoles, S. Schwartz, & K. Luyckx (Eds.), *Handbook of identity theory and research* (pp. 1–27). New York: Springer.
- von Eye, A. (1990). Configural frequency analysis of longitudinal multivariate responses. In A. von Eye (Ed.), *Statistical methods in longitudinal research*. (pp. 545–570) New York: Academic Press.
- von Eye, A. & Bergman, L. R. (2003). Research strategies in developmental psychopathology: Dimensional identity and the person-oriented approach. *Development and Psychopathology*, *15*, 553–580.
- Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E. (1986). *Career development*. Hillsdale: Erlbaum.

- Vuosisadan Rakentajat (2017). *Builders of the Century*. Retrieved from <http://vuosisadanrakentajat.fi/en>.
- Waterman, A. S. (1999). Identity, the identity statuses, and identity status development: A contemporary statement. *Developmental Review, 19*, 591–621.
- Waterman, A. S. (2004). Finding someone to be: Studies on the role of intrinsic motivation in identity formation. *Identity: An International Journal of Theory and Research, 4*, 209–228.
- Watkins, E. & Moulds, M. (2005). Distinct modes of ruminative self-focus. *Emotion, 5*, 319–328.
- Wigfield, A. & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68–81.
- Wigfield, A., Tonks, S., & Klauda, S. L. (2009). Expectancy-value theory. In A. Wigfield (Ed.), *Handbook of motivation at school* (pp. 55–75). New York: Routledge.
- Wright, R. A. (2016). Motivation theory essentials: Understanding motives and their conversion into effortful goal pursuit. *Motivation and Emotion Journal, 40*, 16–21.
- Yang, Y., Cao, S., Shields, G. S., Teng, Z., & Liu, Y. (2017). The relationships between rumination and core executive functions: A meta-analysis. *Depression and Anxiety, 34*, 37–50.
- Zimmermann, G., Lannegrund-Willems, L., Safont-Mottay, C., & Cannard, C. (2015). Testing new identity models and processes in French-speaking adolescents and emerging adult students. *Journal of Youth and Adolescence, 44*, 127–141.

## ORIGINAL PAPERS

### I

#### PERSONAL GOAL ORIENTATIONS AND SUBJECTIVE WELL-BEING OF ADOLESCENTS

by

Elina Marttinen & Katariina Salmela-Aro, 2012.

*Japanese Psychological Research*, 54, 263–273.

Reproduced with kind permission by Wiley.

## Personal goal orientations and subjective well-being of adolescents

ELINA MARTTINEN\* *University of Jyväskylä*

KATARIINA SALMELA-ARO *University of Helsinki*

**Abstract:** The present study examines the types of orientation that can be identified according to the personal goals of adolescents, and how these orientations differ in their subjective well-being. In the context of the person-oriented approach, 1144 17-year-olds (565 girls, 579 boys) filled in the revised Little's personal project analysis, school burnout, depression, life satisfaction, and self-esteem inventories. Four goal orientations emerged from this data with cluster analysis: (1) property (40%), (2) vocation (24%), (3) social relationships and future education (23%), and (4) self-focused (13%) orientations. Boys were the majority in the property and the vocation orientations, whereas girls dominated in the social relationships and future education and the self-orientations. Those in the self-orientation group were the most burned out, had most symptoms of depression and the lowest life satisfaction and self-esteem compared with other orientations. Orientations indicate the basic needs for competence (property and vocation orientations), relatedness (social relationships and future education orientation) and autonomy (self-focused orientation) (Deci & Ryan, 2000). The time perspective is addressed on the basis of goal orientations reflecting the past (self-ruminating goals), the present (relationships and current education) or the future (upcoming education and wealth).

**Key words:** personal goal orientations, subjective well-being, adolescents, person-oriented approach, time perspective, basic needs.

Young people are usually at the stage of life when the future is ahead, and the essential goals are set. They encounter two broad kinds of challenge. First, they become a legally competent member of society and face the challenge of earning their own living and second, they must manage their personal relationships (Nurmi, 2004). From the framework of the time perspective, adolescents are living the present at full blast and at the same time are required to plan the future for themselves (Baltes, 1997; Brandtstädter, 1989; Damon, 2004; Nurmi, 1991). Adolescents orient to their future life by making choices, decisions, and devoting themselves to various matters (Nurmi, 1991, 1993;

1994; Salmela-Aro, 2009, 2010). This selection mechanism includes many psychological mechanisms when motives, interests, and personal goals direct the exploration, planning, decision-making, and commitments of adolescents (Nurmi, 2004).

Motivation is one of the key mechanisms through which adolescents direct their development and select actions and environments (Nurmi, 1993, 1997). In self-determination theory, the psychological needs for competence, autonomy, and relatedness are essential for understanding the content of goal pursuit (Deci & Ryan, 2000). Goal pursuit is effective when people are able to satisfy their basic

\*Correspondence concerning this article should be sent to: Elina Marttinen, Rikhardinkatu 4 B, 00130 Helsinki, Finland. (E-mail: elina.marttinen@nyyti.fi)

psychological needs as they pursue and attain their valued outcomes (Deci & Ryan, 2000; Ryan & Deci, 2000).

Adolescents' motivation can be examined using personal goals and projects (Massey, Gebhardt, & Garnefski, 2008; Salmela-Aro, 2001). They formulate their goals by comparing their own motives with the socio-cultural environment and the possibilities open to their own age (Nurmi, 2004). Many hopes and interests for the future of the adolescents are related to the most central developmental tasks of this life phase (Nurmi, 2004). The main aim of this study is to examine goal orientation based on the content of the adolescents' personal projects. Second, we examine how subjective well-being appears in different orientations.

Adolescent goal content and related pursuits have been extensively studied during the last two decades (for a review, see Massey et al., 2008), but the goal orientations based on content as it naturally occurs is lacking (Salmela-Aro, Aunola, & Nurmi, 2007a). The person-oriented approach (Bergman & El-Khoury, 2001) used in this study is a modern typological approach that determines the combination of meaningful values as unitary (Bergman & El-Khoury, 2001).

The life-span theories of motivation suggest that the demands, challenges, and possibilities that people experience during a particular life period channel the personal goals people form (Little, Salmela-Aro, & Phillips, 2007; Nurmi, 1991; 1992; 1994). In an earlier study, several concepts have been used to describe people's goals: current concern (Klinger, 1975), personal projects (Little, 1983), life task (Cantor, Norem, Langston, Zirkel, Fleeson, & Cook-Flanagan, 1987), personal striving (Emmons, 1986), and possible selves (Markus & Nurius, 1986). In this study, Little's concept of personal projects (1983) is used to measure personal goals. Personal projects have usually been classified according to their content, and the categories refer to different goals and events of the future, such as education, work, family, children, self, hobbies, health, leisure, wealth, and home (Little, 1983; Nurmi, 1992; Salmela-Aro, 1992; Salmela-Aro, Vuori, & Koivisto, 2007b). Future

time perspectives have been linked to goals in socio-emotional selectivity theory, as individuals select goals in accordance with peoples' perceptions of the future as being limited or open-ended (Lang & Carstensen, 2002). When time is perceived as open-ended, the goals that become most highly prioritized are most likely to be those that are preparatory, focused on gathering information, experiencing novelty, and expanding the breadth of knowledge as well as seeking contacts that could be useful in the more distant future, including goals related to the task of finding out about one's role in society and vocational or career interests (Carstensen, 2006; Lang & Carstensen, 2002).

The studies of the goal contents of adolescents have claimed that the goals reflect the Havighurst Developmental Tasks (1948) (Massey et al., 2008; Nurmi, 1991; Salmela-Aro et al., 2007b). Adolescence contains normative demands, challenges, and role expectations. To master the transition and to respond to the expectations well enough, the adolescent must equalize the personal projects with these demands (Salmela-Aro, 2001). When the adolescents are asked about their future wishes, interests and projects, they typically talk about those matters that are connected to their personal lives, such as education, work, future family, leisure activities, travel, and self-development (Nurmi, 1991; Salmela-Aro, 2001).

Sex differences have also been found in the content of adolescents personal projects. Girls have more goals related to the family and to human relations (Greene & Wheatley, 1992), education (Nurmi, 1989), and leisure and self-development (Salmela-Aro et al., 2007b) than boys. The personal projects of boys are more often related to material values (Cross & Markus, 1991; Solantaus, 1987) and to work and property (Salmela-Aro et al., 2007b). Multiple goals or goal systems are activated in action (Pervin, 1992), but a study of simultaneous goals is still lacking (Austin & Vancouver, 1996). People usually have more than one project or goal. This is why the personal projects analysis method advises to express several projects (Little, 1983; Salmela-Aro,

2002). The orientations of these projects are discussed here.

#### *Personal goals and subjective well-being*

Subjective well-being is people's evaluation of the quality of their lives, which includes both cognitive judgments and affective reactions (Diener, 2001). We approach subjective well-being from the perspective of depressive symptoms and school-related burnout (Salmela-Aro & Näätänen, 2005), as well as life-satisfaction (Diener, Emmons, Larsen, & Griffin, 1985) and self-esteem (Rosenberg, 1965). School-related burnout consists of three different dimensions: emotional exhaustion, where the adolescent is feeling emotionally overloaded, resources for managing life have run out, and one feels powerless and tired; there is cynicism and an impulsive, loose attitude towards school or work; and a feeling of inadequacy and inability, the person estimating himself, his performance or his knowledge negatively (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009; Salmela-Aro & Näätänen, 2005).

The connection between personal goals and subjective well-being has been extensively studied (Brunstein, 1993; Emmons, 1991; Heckhausen, 1999; Little, 1989; Salmela-Aro & Nurmi, 1997). However, a few studies have also concentrated on the content of the goals and subjective well-being. The life-span theories of motivation suggest that personal goals that are parallel with the developmental tasks of the life phase are adequate and thus facilitate the well-being of the individual (Nurmi, 1993; 2001; 2004; Salmela-Aro, 2009). It has also been stated that only the achievement of goals that are congruent with motivational dispositions contributes to enhanced well-being (Brunstein, Schultheiss, & Grassman, 1998). Both cross-sectional (Emmons, 1991) and longitudinal studies (Salmela-Aro & Nurmi, 1997) have shown that the young adults who have goals that are related to personal relationships, family, and education have better subjective well-being and fewer symptoms of depression than other young adults. Goals related to leisure activities are associated with life satisfaction (Little & Chambers; 2004).

By contrast it has been stated in several studies that goals concerning the development of personality and identity, more generally self-related goals, are related to distress, low self-esteem, problems with mental health, and exhaustion (Salmela-Aro, 1992; Salmela-Aro et al., 2007b; Salmela-Aro & Nurmi, 2004; Salmela-Aro, Pennanen, & Nurmi, 2001). The relation is also two-way, because the increase in the goals that concentrate on the self leads to an increase in the depression symptoms, and a greater number of the depression symptoms leads to a greater number of the goals concentrating on the self (Salmela-Aro et al., 2001; Salmela-Aro & Nurmi, 1997). Parallel results have also been reported in a meta-analysis, with the concentration on self in general being associated with negative feelings and rumination (Mor & Winquist, 2002). Furthermore, in research about adolescent identity formation, ruminative pondering is associated with distress, depression, and elevated anxiety (Kidwell, Dunham, Bacho, Pastorino, & Portes, 1995; Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, & Goossens, 2008; Luyckx, Soenens, & Goossens, 2006). The time perspective has also been linked with well-being and the content of goals, so that when goals are incongruent with one's future time perspective, pursuing them could result in detrimental outcomes (Lang & Carstensen, 2002). Particularly with regard to young people pursuing emotion-related goals, aiming at emotion regulation may mean that individuals are more likely to experience social strain and dissatisfaction (Lang & Carstensen, 2002).

#### *Aims and hypotheses*

We examine the following research problems:

1. What kinds of orientation can be identified in the content of personal projects? We expect that the majority of the personal projects of the adolescents will be related to education, career and social relations (Hypothesis 1) (Salmela-Aro, 2001). The second assumption is that we will identify a group of adolescents who have personal projects concerning self

**Table 1** Personal project classes, examples and the number of projects produced

Personal project class	Example	Projects produced
Present education	"Finish up this school"	722
Vocation / work	"Get a nice job"	644
Wealth and money	"I want to be rich"	480
Future education	"Apply for a college"	347
One's health	"Stay healthy"	284
Friends	"Hold on to friendships"	241
Relationship	"Move together with my boyfriend"	240
Hobbies and sport	"Progress in my hobby"	233
Self related goals	"To learn to be more open and to have more courage"	182
Lifestyle	"I want to be famous"	181
Traveling	"Go to South Europe during summer holiday"	153
Dating	"Fall in love with a wonderful woman"	137
Moving	"I want to move out of my parents house"	74
Childhood family	"Keep in contact with my parents and family"	63
Military service	"Go to army"	55
One's children	"Take care of my children"	37
Appearance	"Lose weight"	19
Substance abuse	"Drink as much alcohol as possible"	13

and self-development. (Salmela-Aro et al., 2007b) (Hypothesis 2).

- How do the identified orientations differ from each other with regard to school-related burnout, depression symptoms, satisfaction with life, and self-esteem? We assume that those orientations that include self-related goals (Mor & Winquist, 2002) have more school-related burnout and symptoms of depression, as well as lower life satisfaction and self-esteem, whereas those goal orientations that include goals congruent with development tasks produce better subjective well-being (Hypothesis 3).

## Method

### *Participants and procedure*

The participants were 1144 upper secondary school students (age:  $M = 17.4$  years,  $SD = 1.2$  years; girls 565, 49%) from vocational and high schools. The vocational school students were from the metropolitan area of Finland and the high school students were from a town in the eastern part of Finland. They completed a self-report questionnaire tapping personal goals and subjective well-being in the classroom during a 45-min school lesson. The

participants who were over 25 years old or persons whose questionnaires were filled incorrectly were omitted from the final analyses ( $N = 12$ ). In the final analysis there were 536 students from vocational education (age:  $M = 17.83$  years,  $SD = 1.59$  years) and 608 students from high school (age:  $M = 17.05$  years,  $SD = 0.27$  years).

### *Measures*

*Personal Project Analysis (PPA)*. The participants filled in a revised version of Little's 1983 Personal Project Analysis inventory. The adolescents were asked first to describe four of their current personal projects in response to the following instruction: "People have different kinds of important goals, projects, and intentions. These personal goals may include different life areas like school, friends, family, work, studying, dating, health, one's own parents, wealth and use of money, travelling, self or hobbies." Each project mentioned by the participants was content analyzed independently by two assessors into 18 different classes. The Cronbach's alpha was .92. The classes and examples as well as numbers of goals produced are presented in Table 1.

*School-related burnout* was assessed using the method developed for the purpose of measuring adolescent school burnout (Salmela-Aro et al., 2009; Salmela-Aro & Näätänen, 2005). The adolescents were asked to evaluate their study circumstances by *emotional exhaustion* (three items, e.g., "I feel that I am drowning in schoolwork"), *cynicism* (three items, e.g., "I feel that I am losing interest in school"), and *feelings of inadequacy* (three items, e.g., "I often feel inadequate at school"). The nine items were assessed using a 6-point Likert scale ranging from 1 (*I totally disagree*) to 6 (*I totally agree*). The Cronbach's alphas were .72, .85, and .76 respectively.

Depressive symptoms were assessed using a 10-item Depression Scale (DEPS; Salokangas, Stengård, & Poutanen, 1994; e.g., "During the last month, I felt that all joy had disappeared from my life"). A 4-point Likert scale ranged from 0 (*Not at all*) to 3 (*Extremely*). The indicator that describes depression was constructed by summing up the points of all the items together. The Cronbach's alpha for the depression scale was .90. The limit of clinically significant depression on this scale is 9 points and when this limit value is exceeded in a medical study, the probability of a depression diagnosis will be 35.7% (Salokangas et al., 1994).

Life satisfaction was measured using the (Diener, Emmons, Larsen, and Griffins (1985) Satisfaction with Life Scale. It is a 5-item scale (e.g., "On the whole, I am satisfied with myself"). A 7-point Likert scale ranged from 1 (*totally disagree*) to 7 (*totally agree*). The Cronbach's alpha for the satisfaction with life scale was .86.

Self-esteem was measured using Rosenberg's (1965) Self-esteem Scale, a 5-item scale with statements reflecting general self-acceptance, self-respect, and an overall attitude towards oneself (e.g., "I have a positive concept of myself"). Items were assessed using a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). The Cronbach's alpha for the self-esteem scale was .73.

#### *Analysis strategy*

The 10 most often mentioned personal projects (Table 1) were chosen for the cluster analysis.

The personal project variables with relation to friends, relationships and one's childhood family, dating, childhood family, and one's children were combined into an inclusive relation variable. The smallest content classes (moving, military service, appearance, substance abuse, and travelling) were not included in the analysis because they tend to skew the results too much. The items chosen for the cluster analysis were: present education, education in the future, vocation/work, wealth and money, hobbies and sport, one's health, self-related goals, lifestyle, and social relationships. Clustering of the variables was carried out using nonhierarchical K-means cluster analysis in the SPSS 13.0 program. Case homogeneity was assessed using Euclidean distance. An analysis of variance (ANOVA) was used to examine group differences. The effect size was analyzed using partial eta squared ( $\eta^2$ ).

## **Results**

The first aim of the study was to find out what kinds of orientation can be identified in the content of adolescents' personal projects. The groups that emerged in the three-cluster solution were named after the centre goal variable: (1) a present education and wealth and money orientation; (2) a present education and self-focused orientation; and (3) a present education and relationships orientation. In the four-cluster solution, the group of present education and relationships goal orientation separated into two: (1) a present education and vocation/work orientation; and (2) a social relationships and present and future education orientation. The five-cluster solution did not bring out any extra information. Because the four-group solution proved to describe the material best, this solution was examined further. The stability of the solution was tested by clustering the randomized halves of the data. The same cluster centers appeared with the halves and the solution was affirmed to be stable enough.

Table 2 shows clustered variable means and standard deviations. The cluster centers display those variables that are at the midpoint of the

**Table 2** Analysis of variance of the clusters and the personal goal variables

Personal goals (range 0–4)	<i>M (SD)</i>	Clusters				<i>F</i> (3, 1140)	<i>p</i>	$\eta^2$
		1: Property <i>N</i> = 459 (40%)	2: Vocation <i>N</i> = 278 (24%)	3: Social relationships and future education <i>N</i> = 262 (23%)	4: Self- focused <i>N</i> = 145 (13%)			
Present education	<i>M (SD)</i>	<b>.64a (.56)</b>	<b>.63a (.54)</b>	<b>.64a (.56)</b>	<b>.57a (.54)</b>	.65	.585	n.s.
Future education	<i>M (SD)</i>	.25ab (.46)	.19a (.39)	<b>.50c (.55)</b>	.33b (.50)	23.02	.000	.057
Vocation / work	<i>M (SD)</i>	.40b (.50)	<b>1.19c (.45)</b>	.27a (.45)	.39ab (.49)	223.43	.000	.370
Wealth and money	<i>M (SD)</i>	<b>.93b (.70)</b>	.06a (.25)	.08a (.28)	.08a (.27)	282.94	.000	.370
Hobbies and sport	<i>M (SD)</i>	.22a (.44)	.17a (.45)	.24a (.46)	.15a (.40)	2.11	.097	n.s.
One's health	<i>M (SD)</i>	.20a (.45)	.24a (.45)	.35b (.49)	.23ab (.43)	6.77	.000	.018
Self related goals	<i>M (SD)</i>	.02a (.13)	.00a (.06)	.03a (.18)	<b>1.13b (.43)</b>	1354.01	.000	.781
Lifestyle	<i>M (SD)</i>	.13a (.36)	.24b (.53)	.13a (.36)	.14ab (.37)	5.58	.001	.014
Social relationships	<i>M (SD)</i>	.30a (.46)	.41b (.51)	<b>1.43d (.57)</b>	.62c (.49)	306.60	.000	.447

Note. Means with separate letters differ significantly at the  $p < .05$  level (with Bonferroni correction). The letters (a, b, c, d) indicate which values per line (variable) differ from each other. Cells in bold typeface are the final cluster centers.

**Table 3** Analyses of variance between the clusters in subjective well-being

Measures (range)	<i>M (SD)</i>	Cluster groups				<i>F</i> (3, 976)	<i>p</i>	$\eta^2$
		1: Property	2: Vocation	3: Social relationships and future education	4: Self-focused			
School-related burnout (1–6)								
Emotional exhaustion	<i>M (SD)</i>	2.54a (1.09)	2.50a (1.10)	2.88b (1.00)	3.11b (1.04)	13.28	.000	.040
Cynicism	<i>M (SD)</i>	2.29a (1.12)	2.20a (1.12)	2.24a (1.11)	2.60b (1.14)	3.71	.011	.011
Feelings of inadequacy	<i>M (SD)</i>	2.51a (1.07)	2.43a (1.01)	2.61ab (1.05)	2.92b (1.12)	6.09	.000	.019
Depression (0–30)	<i>M (SD)</i>	5.14a (5.42)	5.13a (5.54)	6.25a (5.61)	8.53b (5.36)	13.34	.000	.040
Satisfaction with life (1–7)	<i>M (SD)</i>	4.62ab (1.24)	4.77ab (1.20)	4.83b (1.24)	4.41a (1.32)	3.73	.011	.011
Self-esteem (1–7)	<i>M (SD)</i>	4.92b (1.06)	4.96b (1.03)	4.81ab (1.13)	4.55a (1.05)	4.65	.003	.014

Note. Means with separate letters differ significantly at the  $p < .05$  level (with Bonferroni correction). The letters (a, b, c, d) indicate which values per line (variable) differ from each other.

cluster group and represent the personal projects that were more commonly mentioned by each group member. The groups were named after each cluster centre, and as present education was one of the centers in every group, the groups were named after the differentiating centers. In the first group, because adolescents mentioned having goals for wealth and money as well as present education, the group was titled a property orientation. This group included 458 (40%) of the adolescents, of whom 62% were boys. The second group had goals for work and vocation as well as present education, and the group was titled a vocation orientation. This group included 278 (24%) of the adolescents, of whom 60% were boys. The third group had several variables as cluster centers. Their personal projects were in present education and school, future education as well as personal relationships, and the group was titled a social relationships and future education orientation. This group included 261 (23%) of the adolescents, of whom 68% were girls. The fourth group had goals related to self and self development, and the group was titled a self-focused orientation. This group included 145 (13%) of the adolescents, of whom 71% were girls.

The second aim of the study was to find out how the orientations identified differed in subjective well-being in terms of school burnout, depressive symptoms, satisfaction with life, and self-esteem. These results are shown in Table 3. With the subjective well-being measures, the self-focused orientation was markedly different from the other orientations. The self-focused orientation had higher values on every dimension of school burnout: emotional exhaustion, cynicism, and feelings of inadequacy. The future education and social relationships orientation also scored high on emotional exhaustion, but did not differ on the other two burnout dimensions from the property and vocation orientations. The property and vocation orientations had the least school-related burnout. The self-focused orientation scored most on depressive symptoms compared with the other orientations. The average depression level of the self-focused orientation was close to clinically significant depression. Of the self-focused

orientation, 43% had a clinically significant number of depressive symptoms. Satisfaction with life was higher in the social relationships and future education orientation than in the self-focused orientation. Self-esteem was higher in the property and the vocation orientations than in the self-focused orientation.

With subjective well-being measures also, the interaction between sex and goal orientation groups was studied and the interaction did not become statistically significant. The sex differences were also studied in the self-focused orientation. Within this orientation girls were more exhausted,  $F(1139) = 7.69, p = .006$ , and felt greater inadequacy in their schoolwork,  $F(1138) = 4.86, p = .029$ , than boys. In the self-focused orientation girls and boys did not differ in life-satisfaction, self-esteem, or depression.

## Discussion

The purpose of this study was to examine the goal orientation of adolescents using the person-oriented approach. Even though a few studies have already examined the personal projects of adolescents using the person-oriented approach (Salmela-Aro et al., 2007b), work on the personal project and goal systems from the orientation perspective has been missing from the empirical studies. The results showed that the typical adolescent development tasks appear in their personal projects (Nurmi, 1991; Salmela-Aro, 2001; Salmela-Aro et al., 2007b). The results of this study support these earlier studies and the first hypothesis (Hypothesis 1).

The time perspective is also apparent in the adolescents' goals as they reflect the past in self-ruminating goals, the present in relationships and current educational goals, and the future in upcoming education and wealth goals. Goals are the states of the future to be pursued. Interestingly, however, the content of the goals reflects the entire timeline. The ruminative goals reflecting the past seem particularly to aim to somehow make corrections into the lived life. This study strengthens the socio-emotional selectivity theory (Lang &

Carstensen, 2002) on future time perspective, showing that adolescents' goals are mainly congruent with their presumed future time perspective, being open-ended.

The main objective of this study was to identify orientations from the content of the adolescents' personal projects. The four-group solution proved to describe material best. The groups were named according to their most central goal: property, vocation, social relationships and future education, and self-focused orientations.

*The property oriented* adolescents had more goals related to wealth, standard of living or money, and equally as many goals related to their present education, and distinctly fewer goals related to future education, their own health, way of life and relationships than adolescents in the other orientations. In the property orientation, 62% were boys.

*The vocation oriented* adolescents had more goals related to work, profession, and becoming a professional, as well as to success in working life. Future education and property did not feature among these adolescents' personal goals, but goals related to present education and way of life as use of time, success, adapting, and a happy life did. The vocation orientation mainly included boys (60%). Among the orientations, these adolescents were the least exhausted by school work. The goals of these adolescents were concrete and the content of the goals delicately reflected their sense appreciation of one's vocational know-how.

The goals of *the social relationships and future education oriented* adolescents were related to the relationships: friends, dating, and family, as well as further education in the future. They also had goals about present education and their own health. The majority of this orientation was girls (68%). The social relationships and future education oriented experienced school-related burnout as emotional exhaustion, but did not feel cynicism or inadequacy in their schoolwork. Life satisfaction was high in this orientation. The personal goals in this orientation were concrete and particularly flexible, although a higher ambition was reflected among the goals of this orienta-

tion than the vocation oriented. These adolescents seemed to be motivated to educate themselves further at the higher degree level.

The fourth orientation was differentiated from the other three in that the personal projects were not directed outwards but rather inwards and towards the self. *The self-focused oriented* adolescents had projects related to personal growth, becoming an independent person, and managing life. Their goals were tinted with negativity. The self-focused orientation was smaller in size, including only 13% of the young people. Most self-focused orientation adolescents were girls (71%). In the self-focused orientation, the adolescents had more school-related burnout in all three dimensions excluding emotional exhaustion, of which they had as much as the social relationships and future education oriented. They had more depression symptoms than the other orientations. Almost every second person in this orientation had clinically significant depression. Life satisfaction and self-esteem were also lower than in the other orientations. Within this orientation the boys were as depressed as the girls, but the girls were more exhausted with their school work and had greater feelings of inadequacy.

The developmental tasks of the adolescents were also reflected in their personal projects. An earlier study has shown that young adults (Salmela-Aro, 1997) and pupils at the upper level of comprehensive school (Salmela-Aro et al., 2007b) who have personal projects concerned with relationships and family as well as education, also have higher subjective well-being and fewer depressive symptoms than other young people. This study replicated this result with the upper secondary school students who were approximately 17 years of age.

The fourth orientation diverged completely from the other orientations, with the identification of this orientation from the material supporting the second hypothesis (Hypothesis 2). The projects of these adolescents dealt with personal growth and reach for autonomy and competence. The results showed that their distress was high. This is in line with earlier studies (Salmela-Aro et al., 2001, 2007b; Salmela-Aro & Nurmi, 2004) and supports the

third hypothesis (Hypothesis 3) that goals which are related to personality development and identity-seeking are associated with low well-being, low self-esteem, problems of mental health, and burnout. The adolescent open-ended future time perspective is also incongruent with these emotionally meaningful goals. This incongruity is thought to be related to social strain and dissatisfaction (Lang & Carstensen, 2002).

In this study, goal orientations provided further information on relations between the personal projects of adolescents. The orientations show that adolescents have multiple goals that are not mutually exclusive. In light of the self-determination theory, the orientations seem to suggest the basic psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000). It seems that the different orientations somehow pursue one of these basic needs more emphatically. Competence needs are reflected in the property and vocation orientations. Relatedness needs are demonstrated in the social relationships and future education orientation. Finally, the need and striving for autonomy appears in the self-focused orientation. Deci and Ryan (2000) argue that these psychological needs, when satisfied, yield enhanced self-motivation and mental health and, when thwarted, lead to diminished motivation and well-being. Particularly in the self-focused orientation, it seems that the need for autonomy is stated in the goals, but it is not fulfilled yet. This might be in connection with the low subjective well-being of the orientation.

The data has been collected from two distinct areas of Finland and from high school and vocational school students. The diversity of the data is a strength at the national level, but further research is required on different cultures. A restriction of the study is that the effect sizes are relatively small. However, when a sample size is big, small effects will also become statistically significant (Cohen & Cohen, 2001). In practice, this means that when the small effects within the group accumulate on society the problems become observable and possibly expensive. The orientation groups were very

different in size (ranging from the smallest of  $N = 145$  to  $N = 459$ ). This unequal size might cause some confounding of the results. However, in this study we assumed that the sizes of the orientation groups were large enough to make the comparisons between the groups. A longitudinal study is needed to investigate the development and forming of the goal orientations. A longitudinal study would also enable the possibility of examining the causality of the subjective well-being and personal projects, and to answer the important question as to whether it is the depression and feeling of inadequacy that leads to the setting up of self-focused goals in order to attain better subjective well-being.

## References

- Austin, J., & Vancouver, J. (1996). Goal constructs in psychology: Process and content. *Psychological Bulletin*, *120*, 338–375.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization and compensation as the foundation of developmental theory. *American Psychologist*, *52*, 366–380.
- Bergman, L. R., & El-Khoury, B. M. (2001). Developmental processes and the modern typological perspective. *European Psychologist*, *6* (3), 177–186.
- Brandtstädter, J. (1989). Personal self-regulation of development: Cross-sequential analyses of development-related control beliefs and emotions. *Developmental Psychology*, *25*, 96–108.
- Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology*, *65* (5), 1061–1070.
- Brunstein, J. C., Schultheiss, O. C., & Grassman, R. (1998). Personal goals and emotional well-being: The moderating role of motive dispositions. *Journal of Personality and Social Psychology*, *75*, 494–508.
- Cantor, N., Norem, J., Langston, C., Zirkel, S., Fleeson, W., & Cook-Flanagan, C. (1987). Life tasks and daily life experience. *Journal of Personality*, *59*, 425–451.
- Carstensen, L. L. (2006). The influence of a sense of time on human development. *Science*, *312* (5782), 1913–1915.
- Cohen, P., & Cohen, J. (2001). Life values and mental health in adolescence. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being*,

- towards a positive psychology of human striving. Göttingen: Hogrefe and Huber Publishers, pp. 167–181.
- Cross, S., & Markus, H. (1991). Possible selves across the life span. *Human Development*, *35*, 230–255.
- Damon, W. (2004). Foreword. In R. Lerner & L. D. Steinberg (Eds.), *Handbook of adolescent psychology*. 2nd ed. Hoboken, NJ: John Wiley & Sons, pp. vii–viii.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuit: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11* (4), 227–268.
- Diener, E. (2001). Well-being (subjective), psychology of. In N. J. Smelser, J. Wright, & P. B. Baltes (Eds.), *International encyclopedia of the social and behavioral sciences*. New York: Pergamon Press, pp. 16451–16454.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49* (1), 71–75.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, *51*, 1058–1068.
- Emmons, R. A. (1991). Personal strivings, daily life events and psychological and physical well-being. *Journal of Personality*, *59*, 455–472.
- Greene, A. L., & Wheatley, S. M. (1992). “I’ve got a lot to do and don’t think I’ll have the time”: Gender differences in late adolescents’ narratives of the future. *Journal of Youth and Adolescence*, *21*, 667–686.
- Havighurst, R. J. (1948). *Developmental tasks and education*. 3rd ed. New York: McKay.
- Heckhausen, J. (1999). *Developmental regulation in adulthood: Age-normative and sociostructural constraints as adaptive challenges*. New York: Cambridge University Press.
- Kidwell, J. S., Dunham, R. M., Bacho, R. A., Pastorino, E., & Portes, P. R. (1995). Adolescent identity exploration: A test of Erikson’s theory of transitional crisis. *Adolescence*, *30*, 785–793.
- Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review*, *82*, 223–231.
- Lang, F. R., & Carstensen, L. L. (2002). Time counts: Future time perspective, goals, and social relationships. *Psychology and Aging*, *17* (1), 125–139.
- Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behavior*, *15*, 273–309.
- Little, B. R. (1989). Personal project analysis: Trivial pursuits, magnificent obsessions, and the search for coherence. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging issues*. New York: Springer Verlag, pp. 15–31.
- Little, B. R., & Chambers, N. (2004). Personal project pursuit: On human doings and well beings. In W. Cox & E. Klinger (Eds.), *Handbook of motivational counseling: Concepts, approaches, and assessment*. Chichester, UK: John Wiley & Sons, pp. 65–82.
- Little, B. R., Salmela-Aro, K., & Phillips, S. (Eds.) (2007). *Personal project pursuit: Goals, action and human flourishing*. Mahwah, NJ: Lawrence Erlbaum.
- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, *42*, 58–82.
- Luyckx, K., Soenens, B., & Goossens, L. (2006). The personality-identity interplay in emerging adult women: Convergent findings from complementary analyses. *European Journal of Personality*, *20*, 195–215.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41* (9), 954–969.
- Massey, E. K., Gebhardt, W. A., & Garnefski, N. (2008). Adolescent goal content and pursuit: A review of the literature from the past 16 years. *Developmental Review*, *28*, 421–460.
- Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: A meta-analysis. *Psychological Bulletin*, *128* (4), 638–662.
- Nurmi, J.-E. (1989). Planning, motivation, and evaluation in orientation to the future: A latent structure analysis. *Scandinavian Journal of Psychology*, *30*, 64–71.
- Nurmi, J.-E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review*, *11*, 1–59.
- Nurmi, J.-E. (1992). Age differences in adult life goals, concerns, and their temporal extension: A life course approach to future-oriented motivation. *International Journal of Behavioral Development*, *15*, 487–508.
- Nurmi, J.-E. (1993). Adolescent development in an age-graded context: The role of personal beliefs, goals, and strategies in the tackling of developmental tasks and standards. *International Journal of Behavioral Development*, *16*, 169–189.
- Nurmi, J.-E. (1994). The development of future-orientation in a life-span context. In Z. Zaleski (Ed.), *Psychology of future orientation*. Lublin: Towarzystwo Naukowe KUL, pp. 63–74.

- Nurmi, J.-E. (1997). Self-definition and mental health during adolescence and young adulthood. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence*. Cambridge: Cambridge University Press, pp. 395–419.
- Nurmi, J.-E. (2001). Adolescents self direction and self definition in age-graded sociocultural and interpersonal contexts. In J.-E. Nurmi (Ed.), *Navigating through adolescence*. New York: Falmer Press, pp. 229–249.
- Nurmi, J.-E. (2004). Socialization and self-development: Channeling, selection, adjustment, and reflection. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*. New York: Wiley, pp. 85–124.
- Pervin, L. A. (1992). The rational mind and the problem of volition. *Psychological Science*, *3*, 162–165.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social, development, and well-being. *American Psychologist*, *55* (1), 68–78.
- Salmela-Aro, K. (1992). Struggling with self: Personal projects of students seeking psychological counselling. *Scandinavian Journal of Psychology*, *33*, 330–338.
- Salmela-Aro, K. (1997). Henkilökohtaiset projektit ja psykkinen hyvinvointi. *Psykologia*, *32* (4), 274–276.
- Salmela-Aro, K. (2001). Personal goals during the transition to young adulthood. In J.-E. Nurmi (Ed.), *Navigating through adolescence: European perspectives*. New York: Routledge Falmer, pp. 59–84.
- Salmela-Aro, K. (2002). Motivaation mittaaminen, esimerkkinä brian littlen henkilökohtaisten projektien menetelmä. In K. Salmela-Aro & J.-E. Nurmi (Eds.), *Mikä meitä liikuttaa, modernin motivaatiopsykologian perusteet*. Keuruu: PS-kustannus, pp. 28–39.
- Salmela-Aro, K. (2009). Depressive symptoms and school burnout during adolescence: Evidence from two cross-lagged longitudinal studies. *Journal of Youth and Adolescence*, *38* (10), 1316–1327.
- Salmela-Aro, K. (2010). Personal goals and well-being: How do young people navigate their lives? In J. Nurmi & S. Shulman (Eds.), *The role of goals in navigating individual lives during emerging adulthood: New directions for child and adolescent development*. Hoboken, NJ: John Wiley and Sons, pp. 13–26.
- Salmela-Aro, K., Aunola, K., & Nurmi, J.-E. (2007a). Personal goals during emerging adulthood: A 10-year follow-up. *Journal of Adolescent Research*, *22*, 690–715.
- Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J.-E. (2009). School burnout inventory (SBI): Reliability and validity. *European Journal of Psychological Assessment*, *25*, 48–57.
- Salmela-Aro, K., & Näätänen, P. (2005). *Bbi-10. Nuorten koulu-uupumus-menetelmä*. Helsinki: Edita.
- Salmela-Aro, K., & Nurmi, J.-E. (1997). Goal contents, well-being, and life context during transition to university: A longitudinal study. *International Journal of Behavioral Development*, *20*, 471–491.
- Salmela-Aro, K., & Nurmi, J.-E. (2004). Motivational orientation and well-being at work: A person-oriented approach. *Journal of Change Management*, *17*, 471–489.
- Salmela-Aro, K., Pennanen, R., & Nurmi, J.-E. (2001). Self-focused goals: What they are, how they function, and how they relate to well-being. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving*. Göttingen: Hogrefe and Huber Publishers, pp. 148–166.
- Salmela-Aro, K., Vuori, J., & Koivisto, P. (2007b). Adolescents' motivational orientations, school-subject values, and well-being: A person-centered approach. *Hellenic Journal of Psychology*, *4*, 310–330.
- Salokangas, R. K. R., Stengård, E., & Poutanen, O. (1994). DEPS – uusi väline depression seulontaan. *Duodecim*, *110*, 1141–1148.
- Solantaus, T. (1987). Hopes and worries of young people in three European countries. *Health Promotion*, *2*, 19–27.

(Received April 14, 2011; accepted November 5, 2011)

## II

### **DARK SHADOWS OF RUMINATION: FINNISH YOUNG ADULTS' IDENTITY PROFILES, PERSONAL GOALS AND CONCERNS**

by

Elina Marttinen, Julia Dietrich, & Katariina Salmela-Aro, 2016.

*Journal of Adolescence*, 47, 185-196.

Reproduced with kind permission by Elsevier.



Contents lists available at ScienceDirect

Journal of Adolescence

journal homepage: [www.elsevier.com/locate/jado](http://www.elsevier.com/locate/jado)



## Dark shadows of rumination: Finnish young adults' identity profiles, personal goals and concerns



Elina Marttinen <sup>a,\*</sup>, Julia Dietrich <sup>b</sup>, Katariina Salmela-Aro <sup>c</sup>

<sup>a</sup> University of Jyväskylä, Department of Psychology, P.O. Box 35, FI-40014, University of Jyväskylä, Finland

<sup>b</sup> University of Jena, Institute of Educational Science, Department of Educational Psychology, Am Planetarium 4, 07743 Jena, Germany

<sup>c</sup> University of Helsinki, Cicero Learning, P. O. Box 9, FIN-00014, University of Helsinki, Finland

### ARTICLE INFO

#### Article history:

Available online 14 November 2015

#### Keywords:

Personal goals  
Concerns  
Content analysis  
Identity status  
Person orientation

### ABSTRACT

Young adults actively construct their identity by exploring and committing to opportunities through the setting of personal goals. Typically personal goal contents are related to young adults' developmental tasks but sometimes goals are self-focused. This longitudinal study explored personal goal and concern contents in relation to identity profiles among young Finns (N = 577) followed from age 23 to 25. Applying the Dimensions of Identity Development Scale, identity formation was measured at age 23. Latent Profile Analysis yielded five profiles: moderate achievement, moderate diffusion, achievement, diffused diffusion, and reconsidering achievement. Two "dark side" identity profiles, characterized by low commitment and high ruminative exploration, were identified: moderate diffusion and diffused diffusion. The moderate diffusion profile seemed to have developmental task-related personal goals and concerns. In the diffused diffusion profile, self-focused personal goals and concerns were typical and personal goals and concerns towards relationships atypical. These findings persisted over the two-year follow-up.

© 2015 The Foundation for Professionals in Services for Adolescents. Published by Elsevier Ltd. All rights reserved.

Young people in transition to adulthood take an active and goal-oriented role in their own development (e.g., Heckhausen, Wrosch, & Schulz, 2010; Salmela-Aro, 2009). The identity formation process of finding out "who I am, and what are my goals" (Schwartz, 2001), is closely tied to the construction of personal goals that optimize young people's ability to handle their upcoming lifespan development (Baltes, 1997; Salmela-Aro et al., 2012). This requires young people to compare their individual motivation and needs with the opportunities, challenges, and constraints typical of the life situation at hand (e.g., Heckhausen et al., 2010; Nurmi, 1992; Salmela-Aro, 2009; Salmela-Aro, Aunola, & Nurmi, 2007). The transition to adulthood poses a number of demands called developmental tasks, which, if met by a young person, are thought to lead to adaptive development (e.g., Havighurst, 1948). Developmental tasks in young adulthood include the completion of education, engaging in one's future career, finding and committing to an intimate relationship, and starting a family. While scholars have theorized about the links between identity development and the construction of personal goals, empirical research involving both kinds of engagement with the transition to adulthood is still missing (Dietrich, Parker, & Salmela-Aro, 2012; Seiffke-Krenke & Gelhaar, 2008). This however, would complete our understanding which kinds of personal goals and identity processes can be considered adaptive or maladaptive. Therefore, this study aims to shed light on the intertwined processes of

\* Corresponding author. Tel.: +358 50 5757949.

E-mail addresses: [elina.marttinen@nyyti.fi](mailto:elina.marttinen@nyyti.fi) (E. Marttinen), [julia.dietrich@uni-jena.de](mailto:julia.dietrich@uni-jena.de) (J. Dietrich), [katariina.salmela-aro@helsinki.fi](mailto:katariina.salmela-aro@helsinki.fi) (K. Salmela-Aro).

young adults' identity formation, operationalized as identity profiles, and the contents of their personal goals and concerns, examined as the extent to which these are related to developmental tasks or not. Specifically, we examine to what extent there is a “dark side” to certain identity profiles, where individuals not only experience poor well-being, but also differ from individuals in other identity profiles in the kinds of personal goals they set and the concerns they struggle with.

### Identity processes, statuses, and profiles

Much research has been conducted on the topic of identity statuses, and dimensions (for a review, see e.g., Crocetti, Sica, Schwartz, Serafini, & Meeus, 2013; Schwartz, 2001). The process-oriented dual-cycle model of identity (Luyckx, Goossens, Soenens, & Beyers, 2006) describes identity development within the cycles of commitment formation and commitment evaluation. Both cycles include, first, an exploration of possible future states, and, second, commitment to particular choices. More specifically, first the individual explores alternatives (*exploration in breadth*), and chooses and commits to particular choices (*commitment making*) (Luyckx et al., 2006; Luyckx, Teppers, Klimstra, & Rassart, 2014; Marcia, 1966). Second, the individual goes through her current commitments (*exploration in depth*), and unites these into the sense of self (*identification with commitment*) (Luyckx et al., 2006, 2014). A recent study by Zimmermann, Lannegrand-Willems, Safont-Mottay, and Cannard (2015) demonstrated that exploration in depth could have two sides: exploration leading to better understanding and a firming up of commitments already made, and a “darker side” where exploration leads to a re-evaluation of commitments. Luyckx et al. (2008) have further identified a fifth process (*ruminative exploration*), where the individual gets stuck in the exploration process and ruminates on life without direction.

Several studies have identified identity statuses on the basis of empirically measured profiles of identity processes, and these have often been drawn from cluster analysis (HYPERLINKCrocetti, Rubini, Luyckx, & Meeus, 2008; Crocetti, Schwartz, Fermani, Klimstra, & Meeus, 2012; Luyckx et al., 2008; Luyckx, Duriez, Klimstra, & De Witte, 2010; Schwartz et al., 2011; Zimmermann et al., 2015), and latent class analysis (Meeus, Van De Schoot, Keijsers, Schwartz, & Branje, 2010). These studies have found some of the profiles proposed by Marcia (1966): *achievement* (moderate or high exploration of alternatives, without ruminative exploration, and then clear commitment), *foreclosure* (very clear commitments without exploring alternatives), and many refined statuses, including *ruminative moratorium* (weak commitments, high exploration, and, in particular, ruminative exploration), *searching moratorium* (strong and clear commitments, but returning to consider these with high exploration of new alternatives), and *diffused diffusion* (weak exploration, weak definite commitments, and elevated ruminative exploration) (Crocetti et al., 2008; Kroger & Marcia, 2011; Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015). Ruminative moratorium and diffused diffusion have been found to be associated with problems in general psychological functioning, such as heightened depressive symptoms (Crocetti et al., 2008; Luyckx et al., 2008; Schwartz et al., 2011), and lowered satisfaction with life (Schwartz et al., 2015), and in domain-specific functioning, such as academic burnout, and low career engagement (Luyckx et al., 2010), lower intrinsic motivation, and feelings of incompetence (Waterman, 2004).

### Personal goals and concerns during the transition to adulthood

Identity formation is closely related to goal pursuit (see Dietrich et al., 2012). Goals refer to future-oriented states, outcomes, or representations of what young adults are striving to achieve (see Austin & Vancouver, 1996). These can range from very explicit personal projects (Little, 2014) to current concerns (Klinger & Cox, 2011), which refer to latent and implicit processes towards particular, yet explicitly unformulated, personal goals. Young people can mentally represent their personal goals in different ways, such as positive desired states (“I want to get job”), hereafter named personal goals, or negative, often more implicit worries (“my relationship won't last”), hereafter labeled personal concerns. Identity development and personal goal striving are cognitive processes, as both include efforts to construct goals and identity commitments, efforts made to pursue goals and express identity commitments, and efforts made to renegotiate these, for example, in light of difficulties (Dietrich et al., 2012).

Scholars in developmental psychology have stressed that the kinds of personal goals and concerns people set (i.e. goal and concern contents) are bound to developmental tasks arising at different points in their lives (e.g. Heckhausen et al., 2010; Nurmi, 1992; Salmela-Aro, 2009). In the process of personal goal formulation, the individual compares and explores her motivation in relation to current opportunities and challenges, and makes commitments to personal goals. Thus, if young people's personal goals reflect the developmental tasks at the transition to adulthood, this has been shown to benefit their well-being (Salmela-Aro et al., 2007, 2012), lower their stress (Dietrich, Jokisaari, & Nurmi, 2012), and promote domain-specific attainment (Ranta, Dietrich, & Salmela-Aro, 2014). However, young adults also have personal goals and concerns that are self-focused (Salmela-Aro & Nurmi, 1997; HYPERLINKSalmela-Aro, Pennanen, & Nurmi, 2001). The contents of these self-focused personal goals and concerns reflect active striving to work out the meaning of one's life, or changing or improving the sense of self, identity, and one's own life-style, or coping and adjustment (Marttinen & Salmela-Aro, 2012; Salmela-Aro et al., 2012). Thus, self-focused personal goals are different from personal goals related to developmental tasks. Optimal identity development has been described to include exploration of self-related issues (Erikson, 1968), and self-focusing has been found to be self-reflective, and thus related to positive outcomes (Burwell & Shirk, 2007; Nolen-Hoeksema, Parker, & Larson, 1994; Salmela-Aro & Nurmi, 1997; Salmela-Aro et al., 2012). However, in turn, self-focused attention is reported to be associated with negative thinking and rumination (Mor & Winquist, 2002), and self-focused personal goals are found to be

associated with low well-being (Luyckx et al., 2008; Salmela-Aro, 1992). Thus, ruminative self-focused personal goals and concerns may give rise to ruminative worrying, which has been found to be related to depressive symptoms (Salmela-Aro et al., 2012), low self-esteem, mental health problems (Salmela-Aro et al., 2001), exhaustion (Marttinen & Salmela-Aro, 2012), and even suicide (Li, Chau, Yip, & Wong, 2013).

### Study aims

To shed light on the “dark side” of identity development and personal goal construction, we aimed, first, to identify identity formation profiles among Finnish young adults. We expected to find identity formation profiles similar to those reported earlier (Hypothesis 1) (e.g., Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015). To validate the profiles yielded by the analysis, we examined whether these differed in subjective well-being, as found in previous studies. We hypothesized that those with “dark side” profiles, i.e. diffused diffusion and ruminative moratorium, would have poorer well-being (Hypothesis 2a) (Luyckx et al., 2008; Schwartz et al., 2015). For further purposes of validation, we compared career goal appraisals in the identity formation profiles that we found. We hypothesized that “dark side” profiles would be related to poorer motivational outcomes (Hypothesis 2b) (Waterman, 2004). We also examined the differences in background characteristics between the identity profiles.

Our second aim was to examine longitudinally the extent to which the content of young adults' personal goals and concerns differed according to their identity profiles. More specifically, we hypothesized that the “dark side” profiles would reflect maladaptation, manifesting in personal goals that are less optimal for the life phase of the transition to adulthood (Dietrich et al., 2012; Salmela-Aro et al., 2012). In particular, the personal goals and concerns related to the developmental tasks of forming and maintaining good relationships with one's family, dating, and friends were expected to be rarer (Hypothesis 3a) (Ranta et al., 2014; Salmela-Aro et al., 2012). Rather, the “dark-side” profiles were expected to relate to ruminative and lifestyle self-focused personal goals and concerns (Hypothesis 3b) (Luyckx et al., 2008; Salmela-Aro et al., 2012).

### Methods

#### Participants and procedure

The study is part of the ongoing Finnish Educational Transitions (FinEdu) longitudinal study. The study began in 2004 and sampled all the 15-year-old students living in a mid-sized (population circa 97,000 inhabitants) city in Central Finland in the last year of their comprehensive school. The sample can thus be considered representative of young Finns born in 1988. For this report, we used two waves, when the participants were at age 23 (2011;  $N = 577$ ; participation rate 85%; 322 female, 255 male), and 25 (2013/2014;  $N = 482$ ; participation rate 86%; 286 female, 196 male). The participants gave their informed consent separately for each wave. At age 23 they reported their life situation as follows: 28% were at university, 24% were in a polytechnic, 10% were in a vocational school, and 8% were studying for a further education entrance examination. In Finland, university and polytechnic entrance examinations are considered tough, and one year after taking their high-school matriculation examination more than 60% of students are not in tertiary-level education (Official Statistics of Finland, 2013). Unsurprisingly, 31% of the sample were studying and working at the same time. Working alongside university or college studies is quite common in Finland. 21% of the participants were working full time, and had thus completed the transition to working life, 8% were unemployed, 3% were at home with children, and 9% were doing something else. The highest socioeconomic status of the childhood family was blue-collar (13%), lower white-collar (48%), and upper white-collar (39%). The participants were mainly Caucasian. They reported their marital status as single (39%), dating (20%), common-law marriage (35%), married (5%), divorced (1%). Those who dropped out ( $n = 95$ ) during the study were more likely to be men ( $\chi^2(1) = 10.25, p = .001$ , contingency coefficient .142), and to have scored lower on the identity dimension exploration in breadth ( $F(1) = 5.03, p = .025, \eta^2 = .010$ ), at age 23 compared to those who remained in the study. In the validation measures, dropouts scored lower on all three career goal appraisals (intrinsic motivation  $F(1) = 12.58, p = .000, \eta^2 = .025$ ; progress  $F(1) = 10.76, p = .001, \eta^2 = .021$ ; attainability  $F(1) = 19.61, p = .000, \eta^2 = .042$ ), and had lower satisfaction with life ( $F(1) = 4.59, p = .033, \eta^2 = .009$ ) at age 23 compared to those who remained in the study. In the baseline examination, one participant was found to be an outlier, and to have answered the questionnaire without giving it any thought. In person-oriented approaches, such as the latent profile analysis used in our analysis, outliers tend to skew the results (Bergman, Magnusson, & El-Khoury, 2002). The participant was thus excluded from the analysis.

#### Measures

At age 23, we assessed identity formation, personal goal and concern contents, career goal appraisals, and well-being. At age 25, we measured personal goal and concern contents.

#### Identity formation

A short version of the Dimensions of Identity Development Scale (DIDS; Luyckx et al., 2008) was utilized for the first time in the Finnish context. The procedure for shortening the original scale, and the items included in the questionnaire are

presented in [Appendix A](#). Participants evaluated their identity formation on 11 items: *commitment making* (CM, two items), *identification with commitment* (IC, two items), *exploration in breadth* (EB, two items), *exploration in depth with reconsideration* (ED-R, two items), and *ruminative exploration* (RE, three items). The items were rated using a 5-point Likert-scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). Cronbach alphas for the sub-scales were .89, .89, .74, .89, and .82, respectively.

#### Personal goals and concerns

Participants filled in the Revised Personal Project Analysis Inventory to measure personal goals ([Salmela-Aro, 2001](#)) at both age 23 and 25. On numbered lines, participants were asked to write down four of their *current personal goals*. They were briefed that people usually have personal goals or projects that relate to different areas of life, such as studies, relationships, work, health, money, self, and hobbies.

Next, the participants were informed that people might have different kinds of concerns or worries, and they were asked to write down on numbered lines two of their *current personal concerns* ([Cox & Klinger, 2011a](#)). The content of the personal goals and concerns were coded into categories by two independent assessors, and their percentage rate of agreement, i.e., content analysis reliabilities, were for personal goals 93.8% at age 23 and 91.7% at age 25, and for concerns 90.4% at age 23 and 91.3% at age 25. The nine most frequent categories of personal goals and seven most frequent categories of concerns were selected for further analysis. Selected categories, their frequencies, and examples of the contents are presented in [Table 1](#).

#### Validation measures of career goal appraisals and well-being

After reporting their personal goals, the participants were asked to produce one *career-related personal goal* and to appraise it with respect to eight items covering *intrinsic motivation* (four items, e.g., “Because I really believe this is an important goal”), *progress* (two items, e.g., “How capable are you of realizing your goal?”), *attainability* (two items, e.g., “How probable do you regard the fulfillment of your goal?”). Items were rated on a 7-point Likert scale ranging from 1 (*very little*) to 7 (*very much*). Cronbach's alphas for the sub-scales were .78, .78, and .85, respectively.

*Life satisfaction* was self-rated with the Satisfaction with Life Scale ([Diener, Emmons, Larsen and Griffins, 1985](#)). The scale comprises five items (e.g. “On the whole, I am satisfied with myself”) rated on a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Cronbach's alpha for the scale was .89.

*Depressive symptoms* were assessed using the 9-item Finnish Depression Scale (DEPS; [Salokangas, Stengård, & Poutanen, 1994](#); e.g., “During the last month, I felt that all joy had disappeared from my life”). Items were rated on a 4-point scale ranging from 0 (*not at all*) to 3 (*extremely*). The depression indicator was calculated by summing the scores for all the items. A sum score of nine points was the limit of clinically significant depression ([Salokangas et al., 1994](#)). Cronbach's alpha for the scale was .91.

**Table 1**  
Personal goal and concern categories, examples, and frequencies at age 23 and age 25.

Category	Example	Personal goal frequency		Concern frequency	
		Age 23	Age 25	Age 23	Age 25
Work: profession, occupation, unemployment, be successful at work	“get a permanent job” “I won't get a job with my field of education”	500 (.87)	468 (.97)	134 (.23)	118 (.24)
Education: studying, finishing a degree, future education	“succeed in university studies” “my studies are not progressing as I would have liked”	395 (.68)	143 (.30)	88 (.15)	45 (.09)
Relationships: romantic relationships, own current family and children, childhood family and siblings or friends	“happy relationship” “get married” “have children” “hold close people near” “my relationship won't last” “well-being of my loved one”	372 (.64)	414 (.86)	163 (.28)	178 (.37)
Finance and material possessions: standard of living, depths, property, car	“save money” “money”	122 (.21)	110 (.23)	213 (.37)	152 (.32)
Leisure time: hobbies, traveling	“read more” “play music” “run a marathon” “meditate”	216 (.37)	181 (.38)	<40	<40
Own apartment/house and moving: owning a house or department, furnishing	“buy my own home”	150 (.26)	161 (.33)	<40	<40
Own health: physical health and taking care of it	“health related” “I'm in bad shape” “that I'll get sick”	212 (.37)	186 (.39)	78 (.14)	95 (.20)
Lifestyle: good and bad life, success in life, adaptation, happy life, future, choices, experiences	“happiness” “live in the moment” “time management” “own future” “I won't get enough done”	102 (.18)	79 (.16)	87 (.15)	63 (.13)
Self: ruminative self-related, personal growth and development, independence, own feelings, loneliness, stress, freedom, burnout, self-esteem	“develop to be a better person” “stress less” “I want to understand myself better” “I'm not good enough” “I won't have enough strength” “I'm lonely”	65 (.11)	43 (.09)	105 (.18)	55 (.11)

Note. Concerns are in italic; frequency of personal goals and concerns per participant are in parentheses.

*Engagement in the academic context* was measured with the Work and study engagement inventory (Salmela-Aro & Upadaya, 2012). Participants evaluated their engagement with nine items (e.g., “At work or at school I am bursting with energy”) on a 7-point Likert scale ranging from 0 (*Never*) to 6 (*Daily*). Cronbach's alpha for the scale was .94.

*Academic burnout* (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009) was measured with a 10-item inventory (e.g., “I feel that I am drowning in my studies or work”). Participants evaluated their burnout on a 6-point Likert scale ranging from 1 (*Totally disagree*) to 6 (*Totally agree*). Cronbach's alpha for the scale was .88.

#### Data analysis

Confirmatory factor analysis (CFA) was used to analyze the factor structure of the DIDS. Next, we used latent profile analysis (LPA) to reveal identity formation profiles at age 23. LPA is a model-based modification of cluster analysis (Vermunt & Magidson, 2002), and one of its advantages to cluster analysis is that it provides fit indices. To validate the identified solution, we used analysis of variance (ANOVA) to compare the identity profiles (obtained by LPA) in career goal appraisals and well-being at age 23. Missing values in ANOVA were handled with list-wise deletion. Finally, we employed configural frequency analysis (CONFA; von Eye, 1990; Stemmler, 2014) to examine how the identified identity profiles differed in the frequencies of the contents of personal goals and concerns at age 23 and age 25. CONFA is a non-parametric method that identifies over-frequent observations occurring more often than expected (type) in cells of cross tabulation or more complex configurations, and under-frequent observations occurring less often than expected (antitype) (Stemmler, 2014). CONFA allows to analyze far more complex patterns than e.g. chi square-test. With CONFA, we identified the more common and rarer personal goals and concerns within the different identity profiles. The CFA and LPA analyses were conducted with Mplus 7.11 (Muthén & Muthén, 1998–2012). The CONFA analyses were conducted with R version 3.0.3 (R Core Team, 2014) using the confreq package (Heine, Alexandrowicz, & Stemmler, 2014). ANOVAs were conducted with IBM SPSS Statistics Version 19.

#### Preliminary analysis

The shortened form of the DIDS was utilized for the first time, and DIDS for the first time in the Finnish context. Correlations among the study variables, overall means and standard deviations are presented in Table 2. Exploration in depth correlated only with ruminative exploration but not with exploration in breadth. The short form of the DIDS captured the reconsideration type of exploration in depth, as described by Zimmermann et al. (2015). For explicitness, this dimension was rephrased as *exploration in depth with reconsideration* (ED-R). A CFA for the dimensional structure of the DIDS was conducted. Table 3 summarizes the fit indices for the different factor solutions. As expected, the five-factor model fitted the data best.

## Results

#### Identity formation profiles

To identify identity profiles, we conducted LPA with unstandardized values. The information criteria for the different profile solutions are presented in Table 4. The five latent profile solution was selected for further analysis showing both significant likelihood ratio test p-values and a high entropy value, indicating good fit of the model. However, we found the smallest BIC value and likelihood ratio test p-values and the highest entropy value in the seven-profile solution. Therefore, we

**Table 2**  
Correlations and descriptive statistics for all continuous variables.

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	M	SD
<b>Identity formation</b>													
1. Commitment making	–											3.62	.91
2. Identification with commitment	.65**	–										3.45	.95
3. Exploration in breadth	.53**	.48**	–									3.79	.81
4. Exploration in depth with reconsideration	–.34**	–.25**	–.05	–								2.87	1.09
5. Ruminative exploration	–.58**	–.48**	–.19**	.63**	–							2.74	1.01
<b>Validation measures</b>													
<b>Career goal appraisals</b>													
6. Intrinsic motivation	.43**	.40**	.35**	–.12**	–.26**	–						6.03	.89
7. Progress	.44**	.38**	.32**	–.23**	–.40**	.53**	–					5.87	1.05
8. Attainability	.37**	.37**	.29**	–.24**	–.36**	.35**	.54**	–				5.59	1.32
<b>Well-being</b>													
9. Satisfaction with life	.45**	.47**	.35**	–.32**	–.48**	.30**	.45**	.42**	–			4.86	1.26
10. Depressive symptoms	–.39**	–.39**	–.31**	.31**	.49**	–.27**	–.40**	–.33**	–.62**	–		5.29	5.22
11. Work/study engagement	.35**	.34**	.18**	–.24**	–.33**	.35**	.36**	.24**	.43**	–.37**	–	4.33	1.16
12. Work/study burnout	–.33**	–.27**	–.10*	.35**	.49**	–.17**	–.34**	–.22**	–.46**	.56**	–.50**	2.60	.95

Note. \*\* $p < .01$ ; \* $p < .05$ .

**Table 3**  
Fit indices for different confirmatory factor analytic measurement models.

Measurement models	BIC	df	$\chi^2$	RMSEA < .05	CFI > .95	SRMR < .05
1 factor	16,728.597	44	1217.600	.213	.565	.143
2 factors (CM + IC & EB + ED-R + RE)	16,296.260	43	945.097	.189	.666	.143
3 factors (CM + IC & EB & ED-R + RE)	15,830.199	41	547.149	.145	.812	.070
4 factors (IC & CM & EB & ED-R + RE)	15,562.192	38	342.888	.117	.887	.063
5 factors (IC & CM & EB & ED-R & RE)	15,281.894	34	93.924	.055	.978	.030

Note. CM = commitment making; IC = identification with commitment; EB = exploration in breadth; ED-R = exploration in depth with reconsideration; RE = ruminative exploration; BIC = Bayesian information criterion; RMSEA = Root Mean Square Error of Approximation; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; Best fitting solution is in italics.

**Table 4**  
Information criteria values for different profiles solutions.

Number of profile groups	BIC	$p_{VLMR}$	$p_{LMR}$	Entropy	Size of the most likely latent profile group
1	8050.437				587
2	7482.083	.0000	.0000	.765	226 361
3	7314.291	.0242	.0264	.768	63 281 243
4	7175.489	.0000	.0000	.915	56 98 173 260
5	7137.801	.0142	.0157	.914	79 56 177 257 18
6	7098.095	.4639	.4739	.870	90 91 255 57 20 74
7	6961.078	.0149	.0165	.970	18 38 85 203 17 138 88
8	7000.286	.8736	.8682	.872	61 44 76 13 80 97 194 22

Note. BIC = Bayesian information criterion;  $p_{VLMR}$  = Vuong–Lo–Mendell–Rubin likelihood ratio test;  $p_{LMR}$  = Lo–Mendell–Rubin adjusted likelihood ratio test.

Selected model is in italics.

also examined the seven-profile solution, and found that two profiles were in fact divided into halves, indicating that the differences between those profiles were only differences of level. Moreover, overall interpretability decreased. According to Johnson (2015), in deciding on the best LPA solution, equal weight should be given to theoretical considerations and interpretability, and to statistical indices. In light of these considerations, we chose the more parsimonious solution with five profiles. The mean scores, standard deviations, and differences between the profiles are presented in Table 5. To facilitate interpretability of the identity profiles and comparability with earlier research findings, we calculated the z-scores for the five-profile solution (Fig. 1).

The largest profile ( $n = 251, 43.5\%$ ), high in CM, IC, and EB, but with no extreme scores on any scale, was named *moderate achievement*. The second largest profile, with scores on all dimensions in the middle of the scale, and somewhat elevated ED-R and RE, was named *moderate diffusion* ( $n = 175, 30.3\%$ ). Third, a profile high in both commitment dimensions and in EB, and very low in ED-R and in RE, was named *achievement* ( $n = 79, 13.7\%$ ). Fourth, a profile low in CM and IC, with moderate EB, high ED-R and the highest score for RE, was named *diffused diffusion* ( $n = 54, 9.4\%$ ). Finally, a small profile ( $n = 18, 3.1\%$ ) with very high in CM, IC, EB and ED-R, and moderate RE, was named *reconsidering achievement*. The found identity profiles were only partly similar to those reported earlier (Hypothesis 1).

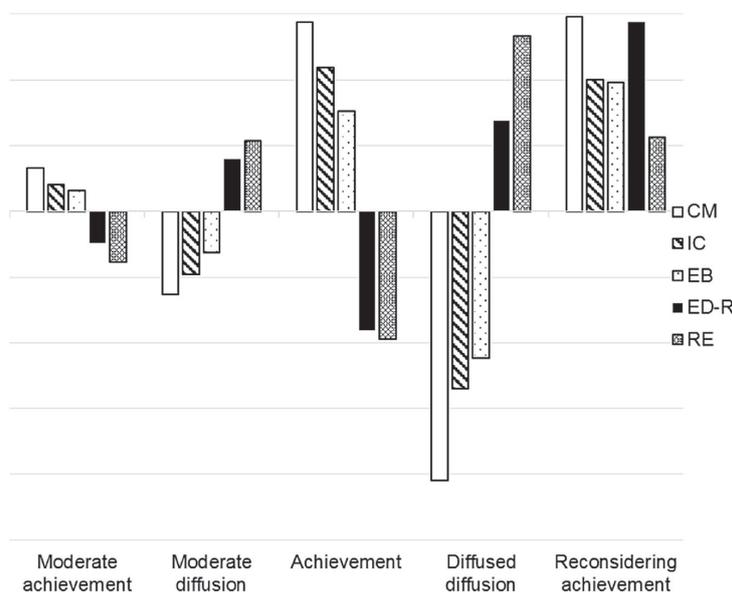
The proportions of the background variables in each of the identity profiles (Table 6) showed that working alongside studying was more common in the achievement profile and less common in the moderate diffusion profile. In contrast, full-time work and unemployment were more usual in the moderate diffusion profile and rarer in the achievement profile. Studying for entrance examination was more usual in the reconsidering achievement profile. To validate the identity profile solution, we examined the mean differences in career goal appraisals and subjective well-being (Table 7). In the light of these measures, the achievement and moderate achievement profiles were the best adjusted: high life satisfaction, academic engagement, intrinsic motivation in career goal pursuit, and low depressive symptoms and academic burnout. The

**Table 5**  
Mean differences between identity formation groups in identity formation dimensions.

Identity status group	Moderate achievement	Moderate diffusion	Achievement	Diffused diffusion	Reconsidering achievement	F	$\eta^2$
Commitment making	3.92 <sup>a</sup> (.23)	3.04 <sup>b</sup> (.30)	4.93 <sup>c</sup> (.17)	1.75 <sup>d</sup> (.42)	4.97 <sup>e</sup> (.12)	1524.07***	.91
Identification with commitment	3.64 <sup>a</sup> (.67)	2.99 <sup>b</sup> (.72)	4.48 <sup>c</sup> (.70)	2.17 <sup>d</sup> (.80)	4.39 <sup>e</sup> (.65)	119.12***	.45
Exploration in breadth	3.92 <sup>a</sup> (.65)	3.54 <sup>b</sup> (.67)	4.41 <sup>c</sup> (.78)	2.89 <sup>d</sup> (.83)	4.58 <sup>e</sup> (.60)	52.64***	.27
Exploration in depth with reconsideration	2.61 <sup>a</sup> (.96)	3.31 <sup>b</sup> (.92)	1.89 <sup>c</sup> (.76)	3.63 <sup>b</sup> (.94)	4.44 <sup>d</sup> (.80)	60.40***	.30
Ruminative exploration	2.35 <sup>a</sup> (.72)	3.28 <sup>b</sup> (.79)	1.76 <sup>c</sup> (.64)	4.10 <sup>d</sup> (.80)	3.31 <sup>bd</sup> (1.08)	121.13***	.46

Note. Means within a row with the different superscripts are statistically significantly different at the  $p < .05$  level (Games–Howell correction); Standard deviations is in parentheses.

\*\*\* $p < .001$ .



**Fig. 1.** Latent profile analysis solution for Finnish young adults' identity formation scales. Z-scores for commitment making (CM), identification with commitment (IC), exploration in breadth (EB), exploration in depth with reconsideration (ED-R), and ruminative exploration (RE).

**Table 6**  
Proportions of sample characteristics in the identity formation groups.

Identity status group	Moderate achievement	Moderate diffusion	Achievement	Diffused diffusion	Reconsidering achievement	Group difference
Gender: male (%)	43.8	45.7	40.5	40.7	61.1	ns
Life situation:						
Study in university (%)	30.2	23.3	38.0	21.4	27.8	ns
Study in polytechnic (%)	26.7	19.3	26.4	23.2	16.7	ns
Study in vocational school (%)	10.2	9.7	10.1	17.9	–	ns
Study for entrance examination (%)	8.2	5.7	11.4	7.1	27.8*	*(.14)
Study and work at same time (%)	32.5	22.2*	46.8*	32.1	38.9	**(.17)
Fulltime work (%)	23.7	29.9*	8.9*	17.9	16.7	**(.16)
Unemployed (%)	5.9	11.9*	2.5*	14.3	11.1	* (.14)
Home with children (%)	1.6	4.0	3.8	1.8	–	ns
Family socio-economic status:						
Blue-collar (%)	12.2	15.1	7.7	13.0	25.0	ns
Lower white-collar (%)	48.3	48.2	46.2	47.8	41.6	ns
Higher white-collar (%)	39.5	36.7	46.2	39.1	33.3	ns
Relationship status:						
Single (%)	34.9	40.9	39.2	44.6	33.3	ns
Dating (%)	21.6	17.6	16.5	28.6	27.8	ns
Common-law marriage (%)	39.2	34.1	35.4	21.4	27.8	ns
Marriage (%)	3.5	6.3	8.9	5.4	11.1	ns
Divorced (%)	.8	1.1	–	–	–	ns

Note. Group differences tested with  $\chi^2$ . Contingency coefficients are in parentheses. Column proportions difference tested with z-test with Bonferroni adjustment.

\* $p < .05$ ; \*\* $p < .01$ .

reconsidering achievement profile was found to be better adjusted than the diffused diffusion profile, but it did not differ from any other profiles. In line with our Hypothesis 2a, the diffused diffusion profile was found to have a clinically significant number of depressive symptoms, and their satisfaction with life was the lowest. Further, the moderate diffusion profile was found to have low satisfaction with life and an elevated number of depressive symptoms. Both profiles reported low academic engagement, and high academic burnout. In line with Hypothesis 2b, we found that those in the diffused diffusion and the

**Table 7**  
Mean differences between identity formation groups according to validation measures of career goal appraisals, and well-being.

	Moderate achievement	Moderate diffusion	Achievement	Diffused diffusion	Reconsidering achievement	F	$\eta^2$
Career goal appraisal							
Intrinsic motivation	6.19 <sup>a</sup> (.71)	5.80 <sup>b</sup> (.83)	6.66 <sup>c</sup> (.46)	5.40 <sup>b</sup> (.91)	6.44 <sup>bc</sup> (.57)	29.30***	.19
Progress	6.16 <sup>a</sup> (.74)	5.65 <sup>b</sup> (.95)	6.42 <sup>a</sup> (.73)	4.86 <sup>c</sup> (1.26)	5.97 <sup>ab</sup> (.99)	31.59***	.20
Attainability	5.90 <sup>a</sup> (1.09)	5.21 <sup>b</sup> (1.26)	6.18 <sup>a</sup> (1.13)	4.46 <sup>c</sup> (1.67)	5.78 <sup>ab</sup> (1.05)	22.30***	.15
Well-being							
Satisfaction with life	5.14 <sup>a</sup> (.99)	4.59 <sup>b</sup> (1.05)	5.75 <sup>c</sup> (1.08)	3.70 <sup>d</sup> (1.38)	5.39 <sup>abc</sup> (1.07)	31.46***	.21
Depressive symptoms	3.81 <sup>a</sup> (3.71)	6.09 <sup>b</sup> (5.14)	2.91 <sup>a</sup> (2.82)	10.27 <sup>c</sup> (6.62)	4.07 <sup>ab</sup> (4.30)	26.19***	.18
Academic engagement	4.49 <sup>ab</sup> (.95)	4.20 <sup>b</sup> (1.20)	4.86 <sup>a</sup> (.97)	3.06 <sup>c</sup> (1.41)	4.15 <sup>abc</sup> (1.42)	21.15***	.15
Academic burnout	2.42 <sup>a</sup> (.85)	2.79 <sup>b</sup> (.82)	2.07 <sup>c</sup> (.76)	3.58 <sup>d</sup> (1.01)	3.04 <sup>abcd</sup> (1.13)	26.23***	.18

Note. Means within a row with the different superscripts are statistically significantly different at the  $p < .05$  level (Games–Howell correction); Standard deviations is in parentheses.  
\*\*\* $p < .001$ .

moderate diffusion profiles had the lowest intrinsic motivation towards their career goal, and more doubt in progressing in and attaining it. In view of these validation outcomes, we consider the diffused diffusion and moderate diffusion profiles to represent the “dark side” of identity development.

#### Contents of personal goals and concerns

The aim of our final analysis was to identify the more common (type), and rarer (antitype) contents of personal goals and concerns associated with the different identity profiles cross-sectionally at age 23 and longitudinally at age 25. Table 8 shows a summary of the results, including statistically significant and close to significant contents (full result Tables are given in Appendix B). For young adults with the achievement and moderate achievement profiles it was unusual to have self-focused personal goals and concerns, and relationship related contents emerged to be typical at age 25. The reconsidering achievement profile had education related but not work related concerns at age 23. Further at age 25, their personal goals developed more towards leisure time and financial matters and less towards relationships. Those in the moderate diffusion profile had only a few personal goals and concerns that were either typical or atypical, meaning that their personal goals and concerns were mainly in line with those of the overall sample. However at age 23, they more commonly had monetary- and material possessions-related personal goals, which come into the category of developmental task-related goals. They more rarely reported education- and personal health-related concerns. The background information showed that the moderate diffusion

**Table 8**  
Typical and atypical personal goal and concern contents in different identity statuses according to configural frequency analysis at age 23 and age 25.

Identity profile	Age 23		Age 25	
	Goals T or A	Concerns T or A	Goals T or A	Concerns T or A
Moderate achievement	No significant T or A	Lifestyle (A) <sup>†</sup>	Leisure time (A) <sup>†</sup>	Relationships (T) <sup>*</sup> Ruminative self (A) <sup>†</sup> Lifestyle (A) <sup>†</sup>
Moderate diffusion	Finance and material possession (T) <sup>*</sup>	Relationships (T) <sup>†</sup> Education (A) <sup>*</sup> Own health (A) <sup>†</sup>	Own apartment/house, moving (A) <sup>†</sup>	Ruminative self (A) <sup>†</sup>
Achievement	Lifestyle (A) <sup>**</sup> Ruminative self (A) <sup>†</sup>	No significant T or A	Relationships (T) <sup>*</sup> Leisure time (A) <sup>**</sup> Finance and material possessions (A) <sup>**</sup>	Relationships (T) <sup>†</sup>
Diffused diffusion	Leisure time (T) <sup>**</sup> Ruminative self (T) <sup>†</sup> Relationship (A) <sup>**</sup>	Lifestyle (T) <sup>***</sup> Work (T) <sup>*</sup> Ruminative self (T) <sup>†</sup> Relationships (A) <sup>***</sup> Finance/material possessions (A) <sup>*</sup>	Lifestyle (T) <sup>***</sup> Relationships (A) <sup>†</sup> Finance and material possessions (A) <sup>†</sup>	Ruminative self (T) <sup>***</sup> Work (T) <sup>†</sup> Relationships (A) <sup>***</sup>
Reconsidering achievement	Lifestyle (T) <sup>*</sup> Education (T) <sup>†</sup> Relationship (T) <sup>†</sup> Ruminative self (T) <sup>†</sup> Leisure time (A) <sup>**</sup> Finance and material possessions (A) <sup>*</sup>	Education (T) <sup>***</sup> Finance/material possessions (T) <sup>†</sup> Work (A) <sup>***</sup> Ruminative self (A) <sup>*</sup>	Leisure time (T) <sup>***</sup> Finance and material possessions (T) <sup>***</sup> Relationships (A) <sup>**</sup> Own health (A) <sup>**</sup> Lifestyle (A) <sup>***</sup>	No significant T or A

Note. T = type, more observed goals or concerns than expected; A = antitype, less observed goals or concerns than expected.  
<sup>†</sup> $p < .10$ , <sup>\*</sup> $p < .05$ , <sup>\*\*</sup> $p < .01$ , <sup>\*\*\*</sup> $p < .001$ .

profile was more likely to be already in full-time employment, which explains their typical finance-related personal goals and the lack of educational concerns. The moderate diffusion profile seemed to have developmental task-related personal goals and concerns that can be regarded as normative in light of their life situation.

In line with hypothesis 3a, the diffused diffusion profile had fewer relationship-related personal goals and concerns at age 23 and 25. Also in line with hypothesis 3b, at age 23, the diffused diffusion profile had more commonly self-focused lifestyle concerns and close to significantly ruminative self-focused personal goals and concerns. This profile also had more commonly leisure time personal goals, the contents of which were self-focused hobbies and spare time activities. All in all, the diffused diffusion profile had fewer developmental task-related personal goals and concerns, and more self-focused personal goals and concerns at age 23. The elevated number of self-focused personal goals and concerns and rarer relationship-related concerns characteristic of this profile persisted over the two-year period. This result shows it is hard for those in the diffused diffusion profile to initiate an adequate active role in setting developmental task-related personal goals, and their personal goals and concerns reflect that the process of finding one's identity is a persisting struggle.

## Discussion

This study examined active attempts at perceiving the different domains of life as meaningful and manageable among Finnish young adults by identifying their identity profiles and validating these according to well-being and motivational outcomes. The study also examined the extent to which different identity profiles related to the kinds of personal goals and concerns young people set at the transition to adulthood.

Overall, we found only partly similar identity formation profiles among our sample of Finnish young adults as have been reported earlier (e.g. Luyckx et al., 2008; Schwartz et al., 2011; Zimmermann et al., 2015). Given that our exploration in-depth scale focused more on the reconsideration than the strengthening of commitments, this study adds a particularly refined “dark side” aspect to the profiles found previously. We identified two profiles reflecting a “dark side” of identity formation, both with fairly poor commitment processes and elevated ruminative exploration. Compared against earlier findings and validation measures, these profiles were labeled moderate diffusion and diffused diffusion. Young adults in the diffused diffusion profile had a clinically significant number of depressive symptoms and poor satisfaction with life, and in line with our hypotheses they were striving towards self-focused personal goals and concerns, which continued to persist at the two-year follow-up. Moreover, the young adults in this profile pursued fewer relationship-related personal goals and concerns, both at age 23 and two years later. In line with this, earlier studies have found an association between diffused diffusion and heightened internalizing problems, such as anxiety, depression, and burnout (Luyckx et al., 2010; Schwartz et al., 2011, 2015). Here participants who had internalizing types of personal goals and concerns had also depressive symptoms and burnout.

Moreover, we found that while the young adults in the moderate diffusion profile were striving towards the same personal goals and concerns as would be expected across the whole sample, they had more personal goals related to monetary and material possessions. These results might be explained by the fact that more of the young adults with this profile were either already working full-time or were unemployed. Overall, the results indicate that developmental task-related personal goals and concerns were not necessarily rarer among those with a moderate diffusion profile and they seem to be better adjusted than the diffused diffusion profile. These findings were not in line with our hypotheses, although, the validation analyses revealed an elevated number of depressive symptoms and burnout in this profile, along with lower satisfaction with life and lower intrinsic career goal motivation.

In this study, we also found a small profile labeled reconsidering achievement. Earlier studies have often labeled a somewhat similar profile as a searching moratorium, describing young people who seem to be willing to change their current commitments regardless of whether they still have these commitments or have already given up on them (Meeus et al., 2010; Schwartz et al., 2011). In this study, however, we found this type of profile among young adults who are more typically studying for the entrance examination at age 23, having education related concerns, and emerging non-developmental task related personal goals. We suggest that these results show reconsideration of the commitments and a step back in the identity formation process. Thus it is possible that the reconsidering achievement is a developmentally different phase than the searching moratorium.

In general, young adults with “dark side” identity profiles can be expected to face difficulties during the transition to adulthood (Schwartz et al., 2015), although to a lesser extent among those with the moderate diffusion than diffused diffusion profile. It has been suggested in both the identity and personal goal literature that young people act adaptively when they intentionally engage in behaviors, such as goal pursuit and identity negotiations, which are appropriate to meeting the demands posed by a developmental transition (Dietrich et al., 2012). Accordingly, the diffused diffusion profile, with multiple self-focused personal goals and concerns and lack of relationship related personal goals and concerns, can be considered maladaptive and not in line with societal demands and expectations. These individuals seem to be willing to explore the possibilities of the transition to adulthood but for possibly different reasons, they seem to focus their attention on themselves in the process, and engage in rumination. It has been suggested that processes of this kind could lead to difficulties in forming a solid self-definition and to persistent worry about the future (Luyckx et al., 2014). It has also been suggested that sometimes it may be necessary to live through and experience the moratorium phase, and await the eventual arrival of commitments (Luyckx et al., 2010). However, among the present sample in this “dark side” category, the contents of personal goals and concerns did not change over the two-year study period, showing that the diffused diffusion profile did not begin to formulate developmental task-related contents during the follow-up.

### Limitations

As a first limitation, we were only able to use a short form of the DIDS, and the questionnaire used captured only the reconsideration type of exploration in depth introduced by Zimmermann et al. (2015), and not the type of exploration in depth that leads to better understanding. Second, the LPA yielded two possible latent profile solutions, and hence some uncertainty remains over our choice of a solution. Third, only individuals' personal goals and concerns were assessed longitudinally, and thus changes in the identity formation profiles could not be examined. Fourth, 95 participants dropped out during the study, and those who remained appraised their career goal as more progressing, it was also more intrinsically motivated, and attainable. Those who remained had also higher satisfaction in life. It is also important to address that some of the findings might be due to the Finnish cultural context and this might affect the generalizability of the findings. Finally, we are concerned for the difficulties associated with standardization in person-oriented research, i.e. causing changes for original answers, and lowering comparability across samples (Moeller, 2015). For this reason we provide the raw scores so that future studies can compare their findings.

### Clinical implications and conclusion

Despite these limitations, our results contribute novel important information to the existing knowledge needed for clinical work with young adults. The results draw attention to self-focused and lifestyle personal goals and concerns, as well as to the lack of relationship-related personal goals and concerns, as warning signs of troubled identity development. Earlier research has pointed to the need for interventions utilizing goal pursuit assessment methods and motivational change strategies to support “dark side” identity formation processes (Luyckx et al., 2008; Schwartz, 2005; Schwartz et al., 2011). For example, a systematic motivational counseling (SMC) intervention has been developed to influence the maladaptive ways people have of committing themselves to the pursuit of their goals or their inability to make commitments (Cox & Klinger, 2011b). Goal pursuit assessments and SMC offer concrete interventions for assessing, supporting, and changing an individual's personal goals, concerns and motivation.

Finally, we suggest that in supporting the identity formation process evidence based interventions and evaluation of these interventions are needed. More research is also needed on the conceptual overlap between identity and personal goal processes in relation to the transition to adulthood.

### Acknowledgments

We acknowledge the support of the Otto A. Malm Foundation and Academy of Finland grants 139168 and 273872 to the first author for preparation of the manuscript, and Academy of Finland grants 139168 and 273872 for the ongoing FinEdu longitudinal study. We thank psychiatrist, PhD Taina Hätönen for valuable comments during the preparations of the manuscript, Regina Garzia Velazquez for the help with the R-program, and Michael Freeman for proof reading the article.

### Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.adolescence.2015.10.024>.

### References

- Austin, J., & Vancouver, J. (1996). Goal constructs in psychology: process and content. *Psychological Bulletin*, 120, 338–375. <http://dx.doi.org/10.1037/0033-2909.120.3.338>.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, 52, 366–380. <http://dx.doi.org/10.1037/0003-066X.52.4.366>.
- Bergman, L. R., Magnusson, D., & El-Khoury, B. M. (2002). *Studying individual development in an interindividual context. A person-oriented approach*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Burwell, R. A., & Shirk, S. R. (2007). Subtypes of rumination in adolescence: associations between brooding, reflection, depressive symptoms, and coping. *Journal of Clinical Child and Adolescent Psychology*, 36, 56–65. <http://dx.doi.org/10.1080/15374410709336568>.
- Cox, W. M., & Klinger, E. (2011a). Measuring motivation: the motivational structure questionnaire and personal concerns inventory and their variants. In W. M. Cox, & E. Klinger (Eds.), *Handbook of motivational counseling: Goal-based approaches to assessment and intervention with addiction and other problems* (2nd ed.). West Sussex, UK: John Wiley & Sons. <http://dx.doi.org/10.1002/9780470979952.ch7>.
- Cox, W. M., & Klinger, E. (2011b). Systematic motivational counseling: from motivational assessment to motivational change. In W. M. Cox, & E. Klinger (Eds.), *Handbook of motivational counseling: Goal-based approaches to assessment and intervention with addiction and other problems* (2nd ed., pp. 275–302). West Sussex, UK: John Wiley & Sons. <http://dx.doi.org/10.1002/9780470979952.ch11>.
- Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity formation in early and middle adolescents from various ethnic groups: from three dimensions to five statuses. *Journal of Youth and Adolescence*, 37, 983–996. <http://dx.doi.org/10.1007/s10964-007-9222-2>.
- Crocetti, E., Schwartz, S. J., Fermani, A., Klimstra, T., & Meeus, W. (2012). A cross-national study of identity status in Dutch and Italian adolescents: status distributions and correlates. *European Psychologist*, 17(3), 171–181. <http://dx.doi.org/10.1027/1016-9040/a000076>.
- Crocetti, E., Sica, L. S., Schwartz, S. J., Serafini, T., & Meeus, W. (2013). Identity styles, dimensions, statuses, and functions: making connections among identity conceptualizations. *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology*, 63(1), 1–13. <http://dx.doi.org/10.1016/j.eraap.2012.09.001>.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75. [http://dx.doi.org/10.1202/s15327752jpa4901\\_13](http://dx.doi.org/10.1202/s15327752jpa4901_13).

- Dietrich, J., Jokisaari, M., & Nurmi, J. E. (2012). Work-related goal appraisals and stress during the transition from education to work. *Journal of Vocational Behavior*, 80(1), 82–92. <http://dx.doi.org/10.1016/j.jvb.2011.07.004>.
- Dietrich, J., Parker, P., & Salmela-Aro, K. (2012). Phase-adequate engagement at the post-school transition. *Developmental Psychology*, 48(6), 1575–1593. <http://dx.doi.org/10.1037/a0030188>.
- Erikson, E. H. (1968). *Identity: youth and crisis*. New York: Norton.
- von Eye, A. (1990). Configural frequency analysis of longitudinal multivariate responses. In A. von Eye (Ed.), *Statistical methods in longitudinal research* (pp. 545–570). New York: Academic Press.
- Havighurst, R. J. (1948). *Developmental tasks and education*. New York: McKay.
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological Review*, 117(1), 32–60. <http://dx.doi.org/10.1037/a0017668>.
- Heine, J., Alexandrowicz, R. W., & Stemmler, M. (2014). *Confreq: Configural frequencies analysis using log-linear modeling*. R Foundation for Statistical Computing.
- Johnson, S. K. (2015). The uses and potential misuses of latent profile analyses. SSHD webinar on February 9th, 2015. Retrieved from [www.sshdonline.org](http://www.sshdonline.org) on 09.02.15.
- Klinger, E., & Cox, W. M. (2011). Motivation and the goal theory of current concerns. In W. M. Cox, & E. Klinger (Eds.), *Handbook of motivational counseling: Goal-based approaches to assessment and intervention with addiction and other problems* (2nd ed., pp. 1–47). Chichester, UK: Wiley-Blackwell. <http://dx.doi.org/10.1002/9780470979952.ch1>.
- Kroger, J., & Marcia, J. E. (2011). The identity statuses: origins, meanings, and interpretations. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 31–53). New York: Springer. <http://dx.doi.org/10.1007/978-1-4419-7988-9>.
- Li, T. M., Chau, M., Yip, P. S., & Wong, P. W. (2013). Temporal and computerized psycholinguistic analysis of the blog of a Chinese adolescent suicide. *Crisis*, 35(3), 168–175. <http://dx.doi.org/10.1027/0227-5910/a000248>.
- Little, B. R. (2014). Well-being: personal projects and the quality of lives. *Theory and Research in Education*, 12(3), 329–346. <http://dx.doi.org/10.1177/1477878514545847>.
- Luyckx, K., Duriez, B., Klimstra, T. A., & De Witte, H. (2010). Identity statuses in young adult employees: prospective relations with work engagement and burnout. *Journal of Vocational Behavior*, 77(3), 339–349. <http://dx.doi.org/10.1016/j.jvb.2010.06.002>.
- Luyckx, K., Goossens, L., Soenens, B., & Beyers, W. (2006). Unpacking commitment and exploration: preliminary validation of an integrative model of late adolescent identity formation. *Journal of Adolescence*, 29(3), 361–378. <http://dx.doi.org/10.1016/j.adolescence.2005.03.008>.
- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., et al. (2008). Capturing ruminative exploration: extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42(1), 58–82. <http://dx.doi.org/10.1016/j.jrp.2007.04.004>.
- Luyckx, K., Teppers, E., Klimstra, T. A., & Rassart, J. (2014). Identity processes and personality traits and types in adolescence: directionality of effects and developmental trajectories. *Developmental Psychology*, 50(8), 2144–2153. <http://dx.doi.org/10.1037/a0037256>.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551–558. <http://dx.doi.org/10.1037/h0023281>.
- Marttinen, E., & Salmela-Aro, K. (2012). Personal goal orientations and subjective well-being of adolescents. *Japanese Psychological Research*, 54(3), 263–273. <http://dx.doi.org/10.1111/j.1468-5884.2012.00521.x>.
- Meeus, W., Van De Schoot, R., Keijsers, L., Schwartz, S. J., & Branje, S. (2010). On the progression and stability of adolescent identity formation: a five-wave longitudinal study in early-to-middle and middle-to-late adolescence. *Child Development*, 81(5), 1565–1581. <http://dx.doi.org/10.1111/j.1467-8624.2010.01492.x>.
- Moeller, J. (2015). A word on standardization in longitudinal studies: don't. *Frontiers in Psychology*, 6, 1389. <http://dx.doi.org/10.3389/fpsyg.2015.01389>.
- Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: a metaanalysis. *Psychological Bulletin*, 128(4), 638–662. <http://dx.doi.org/10.1037/0033-2909.128.4.638>.
- Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Nolen-Hoeksema, S., Parker, L. E., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology*, 67, 92–104. <http://dx.doi.org/10.1037/0022-3514.67.1.92>.
- Nurmi, J. (1992). Age differences in adult life goals, concerns, and their temporal extension: a life course approach to future-oriented motivation. *International Journal of Behavioral Development*, 15, 487–508. <http://dx.doi.org/10.1177/016502549201500404>.
- Official Statistics of Finland (OSF). (2013). *Transition from school to further education and work [e-publication]*. Helsinki: Statistics Finland [referred: 10.8.2015]. Access method [http://www.stat.fi/til/sijk/2013/sijk\\_2013\\_2015-02-12\\_tau\\_001\\_en.html](http://www.stat.fi/til/sijk/2013/sijk_2013_2015-02-12_tau_001_en.html).
- R Core Team. (2014). In R Foundation for Statistical Computing (Ed.), *R: A language and environment for statistical computing*. Vienna, Austria.
- Ranta, M., Dietrich, J., & Salmela-Aro, K. (2014). Career and romantic relationship goals and concerns during emerging adulthood. *Emerging Adulthood*, 2(1), 17–26. <http://dx.doi.org/10.1177/2167696813515852>.
- Salmela-Aro, K. (1992). Struggling with self, personal projects of students seeking psychological counselling. *Scandinavian Journal of Psychology*, 33, 330–338. <http://dx.doi.org/10.1111/j.1467-9450.1992.tb00922.x>.
- Salmela-Aro, K. (2001). Personal goals during the transition to young adulthood. In J. Nurmi (Ed.), *Navigating through adolescence: European perspectives* (pp. 59–84). New York: RoutledgeFalmer.
- Salmela-Aro, K. (2009). Personal goals and well-being during critical life transitions: the four C's—channelling, choice, co-agency and compensation. *Advances in Life Course Research*, 14(1–2), 63–73. <http://dx.doi.org/10.1016/j.alcr.2009.03.003>.
- Salmela-Aro, K., Aunola, K., & Nurmi, J. (2007). Personal goals during emerging adulthood: a 10-year follow-up. *Journal of Adolescent Research*, 22, 690–715. <http://dx.doi.org/10.1177/0743558407303978>.
- Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. (2009). School burnout inventory (SBI) – reliability and validity. *European Journal of Psychological Assessment*, 25, 48–57. <http://dx.doi.org/10.1027/1015-5759.25.1.48>.
- Salmela-Aro, K., & Nurmi, J. (1997). Positive and negative self-related goals and subjective well-being: a prospective study. *Journal of Adult Development*, 4(3), 179–188. <http://dx.doi.org/10.1007/BF02510596>.
- Salmela-Aro, K., Pennanen, R., & Nurmi, J. (2001). Self-focused goals: what they are, how they function, and how they relate to well-being. In P. Schmuck, & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 148–166). Göttingen: Hogrefe & Huber Publishers.
- Salmela-Aro, K., Read, S., Korhonen, T., Vuoksimaa, E., Rose, R. J., & Kaprio, J. (2012). Young adults' developmental task-related goals modify the association between self-focused goals and depressive symptoms. *Applied Psychology: Health and Well-Being*, 4(1), 106–125. <http://dx.doi.org/10.1111/j.1758-0854.2011.01064.x>.
- Salmela-Aro, K., & Upadaya, K. (2012). The schoolwork engagement inventory: energy, dedication and absorption (EDA). *European Journal of Psychological Assessment*, 28, 60–67. <http://dx.doi.org/10.1027/1015-5759/a000091>.
- Salokangas, R. K. R., Stengård, E., & Poutanen, O. (1994). DEPS – uusi väline depression seulontaan. *Duodecim*, 110, 1141–1148.
- Schwartz, S. J. (2001). The evolution of Eriksonian and, neo-Eriksonian identity theory and research: a review and integration. *Identity: An International Journal of Theory and Research*, 1(1), 7–58. <http://dx.doi.org/10.1207/S1532706XSWARTZ>.
- Schwartz, S. J. (2005). A new identity for identity research: recommendations for expanding and refocusing the identity literature. *Journal of Adolescent Research*, 20(3), 293–308. <http://dx.doi.org/10.1177/0743558405274890>.
- Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L. F., et al. (2011). Examining the light and dark sides of emerging adults' identity: a study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, 40, 839–859. <http://dx.doi.org/10.1007/s10964-010-9606-6>.

- Schwartz, S. J., Hardy, S. A., Zamboanga, B. L., Meca, A., Waterman, A. S., Picariello, S., et al. (2015). Identity in young adulthood: links with mental health and risky behavior. *Journal of Applied Developmental Psychology, 36*, 39–52. <http://dx.doi.org/10.1016/j.appdev.2014.10.001>.
- Seiffke-Krenke, L., & Gelhaar, T. (2008). Does successful attainment of tasks lead to happiness and success in later developmental tasks? A test of Havighurst's (1948) theses. *Journal of Adolescence, 31*, 33–52. <http://dx.doi.org/10.1016/j.adolescence.2007.04.002>.
- Stemmler, M. (2014). *Person-centered methods configural frequency analysis (CFA) and other methods for the analysis of contingency tables*. Springer. <http://dx.doi.org/10.1007/978-3-319-05536-7>.
- Vermunt, J. K., & Magidson, J. (2002). Latent class cluster analysis. In J. A. Hagenaars, & A. L. McCutcheon (Eds.), *Applied latent class analysis* (pp. 89–106). Cambridge, United Kingdom: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511499531.004>.
- Waterman, A. S. (2004). Finding someone to be: studies on the role of intrinsic motivation in identity formation. *Identity, 4*(3), 209–228. [http://dx.doi.org/10.1207/s1532706xid0403\\_1](http://dx.doi.org/10.1207/s1532706xid0403_1).
- Zimmermann, G., Lannegrand-Willems, L., Safont-Mottay, C., & Cannard, C. (2015). Testing new identity models and processes in French-speaking adolescents and emerging adults students. *Journal of Youth and Adolescence, 44*, 127–141. <http://dx.doi.org/10.1007/s10964-013-0005-7>.

### **III**

## **CAREER GOAL APPRAISALS THROUGHOUT ADOLESCENCE AND YOUNG ADULTHOOD: DEVELOPMENTAL TRAJECTORIES AND ASSOCIATIONS WITH CAREER IDENTITY**

by

Elina Marttinen, Koen Luyckx, Julia Dietrich, & Katariina Salmela-Aro, 2017.

Submitted manuscript.  
Reproduced with kind permission by authors.

Running head: CAREER GOAL APPRAISALS AND CAREER IDENTITY

Career goal appraisals throughout adolescence and young adulthood:  
Developmental trajectories and associations with career identity

Elina Marttinen,

*University of Jyväskylä, Finland*

Koen Luyckx,

*KU Leuven, Belgium*

Julia Dietrich,

*University of Jena, Germany*

Katariina Salmela-Aro,

*University of Jyväskylä, Finland*

Corresponding author, Elina Marttinen, University of Jyväskylä, Department of  
Psychology, P.O. Box 35, FI-40014 University of Jyväskylä, Finland. Tel. +358 50

5757949 E-mail address: [elina.m.marttinen@jyu.fi](mailto:elina.m.marttinen@jyu.fi)

Acknowledgements: This research was supported by in part by Academy of Finland  
Grant 139168 and Grant 273072, awarded to Katariina Salmela-Aro.

## Abstract

Research has proposed theoretical links between career goal pursuit and identity development, but empirical evidence is lacking. This study investigated how the developmental trajectories of career goal success expectations, effort, and stress among Finnish youth ( $n = 699$ ; 47.5% female, age at baseline  $M = 16.0$ ,  $SD = 0.23$ ) across seven years predicted career identity commitment and exploration dimensions at age 26. Results of latent growth modelling indicated that initial levels of and changes in success expectations and effort positively predicted adaptive exploration in breadth, commitment making, and identification with commitment. Initial level of and change in stress experienced with career goal pursuit positively predicted maladaptive ruminative exploration. Theoretical implications and suggestions for future research are discussed.

*Keywords:* career goal appraisals, career identity, success expectations, effort, stress

Career goal appraisals throughout adolescence and young adulthood:

Developmental trajectories and associations with career identity

The process of transitioning to adulthood presents several opportunities and challenges for young people, many of them in the domain of career development (Heckhausen & Wrosch, 2016; Nurmi, 1991; Salmela-Aro, Aunola, & Nurmi, 2007). The development of one's career and occupational identity is one of the most important and complicated tasks in the transition from adolescence to young adulthood (Erikson, 1968; Porfeli, Lee, Vondracek, & Weigold, 2011; Skorikov & Vondracek, 2011). Through the process of setting future-oriented career goals, exploring career opportunities to achieve them, and making identity commitments in the career domain, young people can arrive at their own personal meaning and significance in life (Nurmi, 1991). Career development and regulation of one's own development contains both active career goal pursuit, as well as the process of career identity development (Dietrich, Parker, & Salmela-Aro, 2012; Nurmi, 2004). Thus, personal goals can direct young people's exploration of choices and subsequent commitments. This study investigated the relationship between the development of young people's career goal appraisals from age 16 to age 23 and their career identity at age 26. Career goal appraisals pertained to the success expectations, the effort, and the stress that young people attributed to pursuing their career goals. Career identity development, in turn, was captured with five identity dimensions (Luyckx et al., 2008): three exploration (in breadth, in depth, and ruminative exploration) and two commitment dimensions (commitment making and identification with commitment). Although researchers have proposed theoretical links between career goal pursuit and career identity development,

empirical evidence is still scarce. The present study addresses this research gap using long-term longitudinal data.

### **Career development at the transition to adulthood**

According to the concept of phase-adequate engagement (Dietrich et al., 2012), theories of career development (Savickas, 2005), developmental regulation of personal goals (Salmela-Aro, 2009), personal identity development (Luyckx, Goossens, Soenens, & Beyers, 2006), and occupational identity development (Skorikov & Vondracek, 2011) all address the question of how young people engage in the transitions associated with moving from adolescence to young adulthood. According to this perspective, engagement is phase-adequate when it maximizes the opportunities for transition success and minimizes potential transition-related costs. The different theories conceptualize a range of engagement behaviours before, during, and after a transition point, including efforts to establish career goals and a career identity, to pursue career goals and express one's identity, and to renegotiate goals and identity commitments when facing barriers and difficulties. For example, career construction theory (Savickas, 2005) proposes that adaptive career development consists of awareness of career-related developmental tasks, active decision making, exploration of own thoughts and career opportunities, and establishment of career confidence. In turn, the life-span model of motivation (Salmela-Aro, 2009) proposes that youth actively direct their development by selecting and pursuing their personal goals, by exploring identity-relevant information, and by committing themselves to a future life path (Nurmi, 2004).

Only rare attempts have been undertaken to bring together career development, developmental goal regulation, and identity processes (Kracke & Heckhausen, 2008; Nurmi, 2004; Schwartz, Côté, & Arnett, 2005; Vondracek & Porfeli,

2008), making this the primary goal of the present study. In particular, we investigated how young people's pursuit of career goals across the transition to adulthood contributes to identity processes later on.

### **Development of career goal appraisals**

Personal goals are defined as internal representations of desired states (Austin & Vancouver, 1996) and they are conceptualized at two levels. On the one hand, they refer to specific goal contents (e.g., 'I want to become an engineer'), and, on the other hand, their subjective appraisals reflect individual differences in overall motivation, beliefs, and values (Nurmi, Salmela-Aro, & Aunola, 2009). In the present study, such career goal appraisals focus on career goal success expectations, effort put in career goal pursuit, and psychological stress experienced with goal striving. Personal goals are studied here as part of developmental regulation theories (Dietrich et al., 2012). These career goal appraisals are assumed to be subject to short-term and long-term developmental changes across the transition to adulthood (Dietrich, Shulman, & Nurmi, 2013; Lent, Brown, & Hackett, 1994; Shane, Heckhausen, Lessard, Chen, & Greenberger, 2012; Wigfield, Tonks, & Klauda, 2009) and possibly contribute to career identity development.

First, success expectations are considered as a precondition for career goal pursuit (Wright, 2016), as young people tend to select and maintain goals which they expect to attain (Eccles, 2009; Wigfield et al., 2009). In line with this tenet, Tynkkynen, Dietrich and Salmela-Aro (2014) found that for the majority of young people their career goal-related success expectations were high in adolescence and increased during the transition to adulthood. No further increases have been found, however, during the

young adult transition from higher education to employment (Dietrich, Jokisaari, & Nurmi, 2012).

Second, effort appraisals are the cognitive evaluations of the behaviours and actions performed toward achieving the goal (Nurmi, 2004). People tend to deploy effort to the degree it is needed (Wright, 2016) or under conditions of urgency (Heckhausen, Wrosch, & Schulz, 2010). Hence, studies investigating the development of career goal effort have reported short-term increases right before the transition from high school to work (Nagy, Köller, & Heckhausen, 2005) but not over the long term (Dietrich, Andersson, & Salmela-Aro, 2014).

Finally, psychological stress is conceptualized as a cognitive appraisal of emotional strain (Lazarus, 1991), and stress appraisal represents strong negative emotions associated with goal pursuit (Dietrich et al., 2013). Psychological stress appears when environmental or external demands exceed the available individual coping resources (Lazarus & Folkman, 1984). It has been proposed that cumulating stress and emotional strain can affect an individual's ability to readjust, resulting in greater vulnerability to physical or psychological problems (Brown & Harris, 1978). The development of career goal stress in the transition to adulthood could be related to the increasing demands in this and other life domains. Corroborating this, previous studies conducted on goal stress appraisals have found that stress increases from ages 16 to 20 (Dietrich et al., 2014) but decreases again across young adulthood (Dietrich et al., 2013).

Earlier studies using the same data-set have investigated developmental changes in career goal appraisals of success expectations (Tynkkynen et al., 2014),

effort and stress (Dietrich et al., 2014), but these studies were limited to ages 16 to 21. This study examines developmental trends during young adulthood.

### **Career goals and career identity**

Career identity refers to the conscious awareness of oneself as a worker or future worker representing one's perceptions of occupational interest, abilities, goal, and values (Skorikov & Vondracek, 2011). The aim for adaptive and adequate career identity development is the revision of life's earlier career-related identifications into larger self-defined and self-construed career goals, values and ideals (Kroger & Marcia, 2011; Luyckx, Duriez, Klimstra, & De Witte, 2010). However, maladaptive and inadequate career identity development encompasses an inability to construe feasible career goals and commitments (Kroger & Marcia, 2011; Luyckx et al., 2010).

The dual-cycle identity model (Luyckx et al., 2006; Luyckx et al., 2008) captures both adaptive and maladaptive identity processes, and it has been used for studying generic and domain-specific identity development (Luyckx, Seiffge-Krenke, Schwartz, Crocetti, & Klimstra, 2014). This model proposes that identity development is unfolding under two complementary cycles of identity formation and identity evaluation. Five identity dimensions are forwarded as the building blocks of these two cycles (Luyckx, Schwartz, Goossens, Beyers, & Missotten, 2011). The dimension of *exploration in breadth* serves often as the starting point for general as well as career identity formation (Luyckx et al., 2011). Exploration in breadth can be described as gathering information both within the person as from the outside world on various identity alternatives, as well as selecting goals to pursue (Baltes, 1997; Luyckx et al., 2011; Nurmi, 1993; Salmela-Aro, 2009). It is assumed that exploration in breadth ideally results in *commitment making*, when strong choices are made in different

identity domains such as the career domain (Luyckx et al., 2011). At this point, one's goals and identity start to become crystalized (Dietrich et al., 2012).

According to the dual-cycle model, identity development does not stop at the point of commitment making. The existing commitments are evaluated through a process of *exploration in depth*, when further information is gathered to evaluate already existing commitments (Luyckx et al., 2011). Optimally, exploration in depth then results in strengthening the commitments further and *identifying with these commitments*. Identification with commitment refers to the degree of security and certainty experienced regarding one's commitments. It is possible that, during this second cycle of identity evaluation, the career goals are adjusted and integrated into one's identity (Dietrich et al., 2012). Exploration in breadth, commitment making, exploration in depth, and identification with commitment are considered as adaptive and adequate identity development processes.

The dual-cycle model of identity development proposes also a maladaptive identity development process, *ruminative exploration* (Luyckx et al., 2008). With ruminative exploration individuals are troubled by their inadequate progress towards important goals and by asking themselves the same questions over and over again they end up with uncertainty and worry (Beyers & Luyckx, 2016; Luyckx et al., 2008; Luyckx et al., 2014). Recent studies also pointed to a maladaptive side of exploration in depth dimension, in which the evaluation of current commitments gets a negative, reconsidering, and ruminative flavour (Marttinen, Dietrich, & Salmela-Aro, 2016; Zimmermann, Lannegrand-Willems, Safont-Mottay, & Cannard, 2015).

**Study aim and hypotheses**

To our knowledge, the empirical evidence on the possible relations between career goal appraisals and career identity development is limited. Thus, the aim of the present long-term longitudinal study was to examine the extent to which the success expectation, effort, and stress trajectories with respect to one's career goals from adolescence to young adulthood (ages 16 to 23) would predict identity dimensions in the career domain later on at age 26. Drawn from earlier theoretical writings, and empirical findings concerning these concepts, some expectations on the associations between identity development and success expectations, effort and stress appraisals can be formulated.

*Career goal success expectations and identity development.* Young people play an agentic role in constructing the beliefs about their abilities and characteristics, and select those activities for which they have the highest expectations for success. Consequently, it is proposed that expectancy beliefs feed into identity development (Eccles, 2009) and high and increasing success expectations would be especially predictive of adaptive identity development. Career goal success expectation can be expected to be initially high among adolescents and an increasing trend is expected to occur in transition to adulthood (Tynkkynen et al., 2014). Thus, we expect increasing trend in career goal success expectations across time (Hypothesis 1). Further, high and increasing success expectations can be expected to strengthen adaptive identity development (Eccles, 2009), thus we hypothesize that success expectations concerning career goals would be positively related to adaptive and adequate identity processes (Hypothesis 2).

*Career goal effort and identity development.* Young people can display agentic behaviour in terms of investing effort into both their identity development and personal goal pursuit (Bandura, 1997; Locke & Latham, 2002; Schwartz et al., 2005). Theoretical inference suggests that effort increases when it is needed right before the dead-line of the goal attainment i.e. in urgency (Heckhausen, Wrosch, & Schulz, 2010). On the other hand, empirical findings suggest that effort should have stable long term trend (Dietrich et al., 2014). Thus, we expect career goal effort to remain more or less stable across time (Hypothesis 3). It has been suggested that individuals with low effort may miss out on identity development opportunities provided by the psychosocial moratorium during young adulthood (Schwartz et al., 2005). Thus, it can be expected that higher effort would be related to more adaptive and agentic identity processes (Hypothesis 4).

*Career goal stress and identity development.* Cumulating stress and emotional strain can affect an individual's ability to readjust (Brown & Harris, 1978) and thus high stress experienced with career goal pursuit can be considered as maladaptive and inadequate in the transition to adulthood (Dietrich et al., 2014; Tynkkynen, Tolvanen, & Salmela-Aro, 2012). Earlier empirical findings suggest career goal stress appraisals to increase in late adolescence (Dietrich et al., 2014) but decrease across young adulthood (Dietrich et al., 2013). Due to lack of long-term longitudinal research on the developmental trends on career goal stress we are not able to formulate specific hypothesis on changes in career goal stress across time. Earlier empirical evidence has shown that poor psychosocial functioning, indicated by anxiety and depressive symptoms (Schwartz et al., 2011) or burnout (Luyckx et al., 2010; Marttinen et al., 2016) is related to maladaptive identity processes. Thus, we assume that the stress

experienced with career goal pursuit would be related to maladaptive identity development (Hypothesis 5).

## Methods

### Participants and procedure

The data of this study is from the ongoing longitudinal Finnish Educational Transitions -research program (FinEdu; Salmela-Aro, 2003). The data collection started in 2004 and the six data waves included here were collected in the beginning of 2004, 2005, 2006, 2009, during 2011, and in the beginning of 2014. Participants were born in 1988 in Finland and were 16 at T1, 17 at T2, 18 at T3, 21 at T4, 23 at T5, and finally 26 at T6. The participants were mainly Caucasians. All those that participated at baseline and had answered at least on one other wave were included in the study ( $N = 699$ ; 47.5% female). At baseline, all participants were in their last year in comprehensive school. The data includes all students from this last grade from one mid-sized (circa 97,000 inhabitants) city in Finland. The participants gave their informed consent separately for each data collection. The participation rates for the data collection waves (T2-T6) were 93.4 %, 85.0 %, 71.1 %, 68.0 %, and 70.7 % respectively. Little's (1988) missing completely at random test was non-significant ( $\chi^2(990) = 970.20, p = .667$ ) indicating that missing values were completely at random. Hence, Full Information Maximum Likelihood (FIML) was used in all primary analyses.

After the transition to secondary education 56.0 % of the participants were studying in high school, 30.9 % were studying in vocational school, and 13.1 % of the participants were neither in high school nor in vocational school. After secondary education, the participants had yet another transition to either tertiary education, work,

or somewhere else. At age 26 the final time point 21.1 % of the participants were still studying either in university level or vocational education, 43.2 % were working, 25.0 % were studying and working at the same time and 10.7 % were either unemployed or were at home taking care of children. These educational transitions are indicated in Table 1. The highest socioeconomic status of the childhood family was blue-collar (18 %), lower white-collar (44 %), and upper white-collar (38 %).

### Measures

*Career goal related success expectations, effort, and stress.* From age 16 to 23 participants were asked to write down their current career-related personal goal related to studying, choice of occupation or working career (Little, Salmela-Aro, & Phillips, 2007). After writing down the career related personal goal, they were asked to appraise it on Likert-scale ranging from 1 (*no / never*) to 7 (*very much*) using the *success expectations* with the career goal, the *effort* put in the career goal, and *stress* related to the career goal. Success expectations with the career goal was appraised with two items, “How probable would you say it is that this goal will come true?” and “How able do you think you are to fulfil your goal?” Cronbach alphas for the success expectations scale ranged between .75 – .80 across five time-points. Effort was appraised with two items, “How much time and effort have you spent on this goal?” and “To what extent have you worked for your goal?” Cronbach alphas for the effort scale ranged between .85 – .93 across five time-points. Stress related to the career goal was appraised with two items “How tiring or loading is this goal?”, and “How stressful is this goal?”. The Cronbach alphas for the stress scale ranged between .82 – .89 across five time-points.

As a preliminary analysis Longitudinal Confirmatory Factor Analysis (CFA) in Mplus 7.4 (Muthén & Muthén, 2012) was used for testing whether strong factorial (scalar) measurement invariance holds for career goal success expectation, effort, and stress. With respect to career goal success expectation adequate fit indices were obtained ( $\chi^2(33) = 91.291$ ,  $p < .000$ ; CFI = .955; RMSEA = .050, SRMR = .030; T1-T5 factor loadings ranged .720 – .882). With respect to career goal effort adequate fit indices were obtained ( $\chi^2(33) = 55.383$ ,  $p = .009$ ; CFI = .990; RMSEA = .031, SRMR = .016; T1-T5 factor loadings ranged .842 – .926). With respect to career goal stress adequate fit indices were obtained ( $\chi^2(33) = 49.358$ ,  $p = .034$ ; CFI = .992; RMSEA = .027, SRMR = .029; T1-T5 factor loadings ranged .782 – .972). Thus, strong factorial measurement invariance was achieved on all three career goal appraisals.

*Career related identity development dimensions* were assessed with a modified, short version of the Dimensions of Identity Development Scale (DIDS; Luyckx et al., 2008) at the last time-point at age 26. An adequate five-factor structure for this short version has been reported earlier (Marttinen et al., 2016), but due to the selection of items, the short version of DIDS seems to be capturing more of a reconsidering type (Zimmermann et al., 2015) of exploration in depth. For this study, the DIDS scale was modified to measure career related identity as reported earlier by Luyckx et al. (2014). Participants evaluated their career-related identity dimensions on a Likert-scale ranging from 1 (*totally disagree*) to 5 (*totally agree*) with *commitment making* (CM, two items, e. g. “I have decided on the direction I am going to follow in my career life”), *identification with commitment* (IC, two items, e. g. “My future career plans give me self-confidence”), *exploration in breadth* (EB, two items, e. g. “I think

about different career goals that I might pursue”), *exploration in depth* (ED, two items, e. g. “I think about whether the aims I already have for working life really suit me”), and *ruminative exploration* (RE, three items, e. g. I am doubtful about what I really want to achieve in working life”). The Cronbach alphas for the dimensions were .92, .85, .78, .89, and .85 respectively for CM, IC, EB, ED, RE at age 26.

### **Data analysis procedure**

Latent Growth Curve Modeling (LGCM) in Mplus 7.4 (Muthén & Muthén, 2012) was used to examine how the intercept and slope terms of career goal success expectations, effort, and stress at Times 1-5 predicted career identity commitment and exploration dimensions at Time 6. To examine the univariate growth trajectory of these career goal appraisals, we proceeded in two steps. We first estimated a linear slope of career goal appraisals using fixed loadings at the values 0, 1, 2, 5, and 7 to reflect the spacing between time points. Second, we estimated growth models with free factor loadings for the last two time points (i.e., T4-T5, ages 21 and 23), allowing for non-linear growth. Taking model parsimony into account, we choose the best fitting model using standard fit indices (Kline, 2011). The chi-square ( $\chi^2$ ) index should be as small as possible, preferably non-significant; the Comparative Fit Index (CFI) should be  $> .90$ , and preferably  $> .95$ ; the Root Mean Square Error of Approximation (RMSEA) should be  $< .08$ , and preferably  $< .06$ ; and the Standardized Root Mean Square Residual (SRMR)  $< .08$ . We used the chi square difference test, and cut-off points of CFI difference  $> .010$ , and RMSEA difference  $> .015$  (Chen, 2007) for comparison of the models.

After choosing the best-fitting univariate growth model for career goal success expectations, effort, and stress, we examined whether the intercept and slope

terms of career goal success expectations, effort, and stress predicted the career-related identity processes of commitment making, identification with commitment, exploration in breadth, exploration in depth, and ruminative exploration at age 26. All though it is theoretically possible to analyse all trajectories and the predictions in once, we decided to analysed each trajectory separately for the sake of simplicity. We additionally controlled for gender and socio-economic status as well and results remained virtually identical as the ones reported below.

### Results

Descriptive statistics and all correlations among the study variables are presented in Table 2. Our aim was to estimate the trajectories of career goal success expectations, effort, and stress, and to examine whether these trajectories predicted career identity commitment and exploration dimensions.

#### *Career goal success expectations*

With respect to the trajectory of career goal success expectations, adequate fit indices were obtained for both the linear ( $\chi^2(10) = 37.336, p < .000$ ; CFI = .891; RMSEA = .063, SRMR = .066) and freely estimated model ( $\chi^2(8) = 29.822, p < .000$ ; CFI = .913; RMSEA = .063; SRMR = .053). In order to choose between the linear and free model, we used the chi-square difference test,  $\chi^2(2) = 7.51, p = .023$ , and focused on the CFI difference (.022), indicating that the freely estimated model fitted the data better. The freely estimated factor loading were 2.74 at age 21, and 3.34 at age 23. A significant mean intercept ( $M = 5.467, p < .000$ ) and slope-term ( $M = 0.121, p < .000$ ) with significant variation around intercept ( $Var = 0.494, p < .000$ ) but not around slope ( $Var = 0.035, p = .059$ ) were obtained. As displayed in Table 3, for the model with the growth trajectory of success expectations predicting the career identity dimensions at

age 26 ( $\chi^2(23) = 57.163, p < .000$ ; CFI = .969; RMSEA = .046; SRMR = .04), the intercept of career goal success expectations positively predicted commitment making, identification with commitment, and exploration in breadth, and negatively predicted exploration in depth and ruminative exploration. The slope of success expectations positively predicted commitment making and negatively predicted exploration in depth and ruminative exploration.

#### *Career goal effort*

With respect to the trajectory of effort, the linear model ( $\chi^2(10) = 32.092, p < .000$ ; CFI = .903; RMSEA = .056; SRMR = .043) was preferred over the freely estimated model ( $\chi^2(8) = 41.563, p < .000$ ; CFI = .853; RMSEA = .078; SRMR = .075), focusing on the CFI difference (.05) as well as RMSEA difference (.022). A significant mean intercept ( $M = 4.650, p < .000$ ) and slope-term ( $M = 0.037, p < .000$ ), with significant variation around intercept ( $Var = 0.562, p < .000$ ) and slope ( $Var = 0.015, p < .000$ ), were obtained. As displayed in Table 3, for the model with the growth trajectory of effort predicting the career identity dimensions at age 26 ( $\chi^2(25) = 54.104, p < .000$ ; CFI = .973; RMSEA = .041; SRMR = .038), the intercept of career goal effort positively predicted commitment making, identification with commitment, and exploration in breadth, and negatively exploration in depth and ruminative exploration at age 26. The slope of effort positively predicted commitment making and identification with commitment, and negatively predicted exploration in depth and ruminative exploration.

#### *Career goal stress*

With respect to the trajectory of stress, adequate fit indices were obtained for both the linear ( $\chi^2(10) = 34.88, p < .000$ ; CFI = .930; RMSEA = .06, SRMR = .041)

and freely estimated model ( $\chi^2(8) = 26.61, p < .000$ ; CFI = .948; RMSEA = .058; SRMR = .054). In order to choose between linear model and free model we used chi square difference test with result  $\chi^2(2) = 8.27, p = .016$ , and CFI difference (.018), indicating that the free model fitted the data better. The freely estimated factor loading were 2.46 at age 21 and 3.05 at age 23. A significant mean intercept ( $M = 4.255, p < .000$ ) and slope-term ( $M = 0.153, p < .000$ ) with significant variation around intercept ( $Var = 1.125, p < .000$ ) and slope ( $Var = 0.084, p = .045$ ) were obtained. As displayed in Table 3., for the model with the growth trajectory of stress predicting the career identity dimensions at age 26 ( $\chi^2(23) = 43.36, p = .006$ ; CFI = .983; RMSEA = .036; SRMR = .034) the intercept of career goal stress positively predicted exploration in depth, and ruminative exploration. The slope of stress positively predicted exploration in depth, and ruminative exploration, and negatively predicted commitment making.

#### Discussion

This study investigated long-term developmental trajectories in career goal appraisals from adolescence to adulthood, and how these were related to exploration and commitment processes of career identity development in young adulthood. We focused on the career goal appraisals of success expectations, effort, and stress, and our results show that both initial levels and changes in these appraisals were meaningfully related to career identity development.

#### **Development of Career Goal Appraisals from Age 16 to 23**

First, we studied the development in career goal success expectations. Extending existing studies that have examined career goal success expectations until age 20 (e.g., Tynkkynen et al., 2014), our results suggest that this general upward trend continues until age 23 years (Hypothesis 1), when many young adults are still involved

in education. This trend may slow down across the transition to work (Dietrich et al., 2012).

Second, we studied adaptive and adequate career goal development by means of career goal effort appraisals. Our results showed that there was a slight long-term increase in the amount of career goal effort (contradicting Hypothesis 3). Earlier empirical findings suggested no long-term increase in career goal effort (Dietrich et al., 2014). Effort in goal pursuit is currently subject to debate (Milyavskaya, Inzlicht, Hope, & Koestner, 2015; Werner, Milyavskaya, Foxen-Craft, & Koestner, 2016). It has been suggested that increases and decreases in effort are related to self-concordance of the goal, the obstacles and temptations met at the goal pursuit, as well as whether the motivation in goal pursuit is either autonomous or controlled (Sheldon & Elliot, 1998; Werner et al., 2016). Thus, further research on associating factors on long-term longitudinal effort regulation and development is needed.

Third, we examined maladaptive and inadequate career goal development by means of career goal stress appraisals. We found that career goal stress increased from age 16 to 23. Psychological stress appears in relation of the individual and her or his environment (Lazarus, 1991), thus it is possible that the increasing of stress in career goal pursuit throughout adolescence and young adulthood might be due to growing external demands set by the career transitions.

### **Goal Appraisal Development and Career Identity at Age 26**

In line with Hypothesis 2, the positive change in career goal success expectations predicted adaptive identity development as captured by the dimensions of commitment making, identification with commitment, and exploration in breadth at age

26. In line with theoretical conceptualizations (Eccles, 2009; Erikson, 1968) and earlier empirical findings (Schwartz et al., 2005), our results support that adaptive career identity development benefits from a sense of agency conceptualized as career goal task-specific success expectations. Such success expectations are closely related to Bandura's (1997) efficacy expectations (Wigfield & Eccles, 2000), thus for young people's sense of career identity, it seems essential to believe in their success in career goal pursuit, and keep on with the belief over the career transitions and development into adulthood.

Further on, in line with Hypothesis 4, both the initial level and development of career goal effort were positively related to adaptive identity development as captured by the dimensions of commitment making, identification with commitment, and exploration in breadth at age 26. Our study suggests that effort pays off, as the substantial work and usage of timely resources with the career goal, and the maintenance and increase of career goal effort across time, predicts commitment making and identification with commitment as well as adaptive exploration in breadth. This result indicates that effort may play into a clearer sense of one's own career identity and adaptive identity development processes. Loss of effort can be seen as a believed loss of control in one's own career development (Shane et al., 2012) and this might result in despair with respect to one's identity development and be related to reconsideration and ruminative exploration.

Finally, in line with Hypothesis 5, both the initial level and change in career goal stress were positively related to less adaptive identity processes of reconsidering exploration in depth and ruminative exploration. Our results show that stress and emotional strain experienced with career goal pursuit possibly feed into

uncertainty and worry in career identity development, resulting into maladaptive identity development and inadequate engagement in transition to adulthood.

In sum, our study showed that adaptive but also maladaptive goal pursuit and identity processes go together as young people transition from adolescence to adulthood. This supports the conceptualization of phase-adequate engagement, stating that both goal and identity development describe the process of young people's career development (Dietrich et al., 2012).

### **Limitation and suggestion for future research**

Besides the strengths of this study (such as the long-term longitudinal design), there were also some limitations. First, career identity development was measured only once. If career identity development would have been measured simultaneously with the career goal appraisals, we would have been able to examine predictions with respect to the directionality of effects. Thus, future research is needed to study how the identity processes of exploration and commitment predict the career goal success expectations, effort, and stress. Second, we found significant variation around the slopes of career goal appraisals of effort and stress. This possibly indicates that there might be individual differences in the pathways of effort and stress development in the transition to adulthood. Since this was not in scope of this study, future research may consider different types of effort and stress pathways (Marttinen, Dietrich, Ranta & Salmela-Aro, manuscript in preparation). Finally, the data was collected only by self-report measures in one specific part of the world. Although self-report measures are adequate for the variables under study, there is still the possibility of shared method variance. Future research is also needed for the study of

developmental trajectories on career goal pursuit and associations with career identity development across different societies.

### **Conclusion**

In conclusion, this study increases our understanding on adequate as well as inadequate engagement in development during the years of young adulthood. This study showed that positive development in success expectations as well as in effort related to committed and adaptive career identity development. On the other hand, career goal was experienced increasingly stressful, and the increase in career goal stress was related to maladaptive, inadequate career identity development of reconsidering exploration in depth and ruminative exploration. This gives insight to the career identity development and how career goal regulations associate with the process of constructing, shaping, and reshaping self as a worker.

## References

- Austin, J., & Vancouver, J. (1996). Goal constructs in psychology: Process and content. *Psychological Bulletin, 120*, 338-375.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization and compensation as the foundation of developmental theory. *American Psychologist, 52*, 366-380.
- Bandura, A. (1997). *Self-efficacy, the exercise of control*. New York: W.H. Freeman and Company.
- Beyers, W., & Luyckx, K. (2016). Ruminative exploration and reconsideration of commitment as risk factors for suboptimal identity development in adolescence and emerging adulthood. *Journal of Adolescence, 47*, 169-178.  
doi://dx.doi.org/10.1016/j.adolescence.2015.10.018
- Brown, G. W., & Harris, T. (1978). *Social origins of depression* (1. American ed., 10. print. ed.). New York: Free Press.
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 14*(3), 464-504. doi:10.1080/10705510701301834
- Dietrich, J., Andersson, H., & Salmela-Aro, K. (2014). Developmental psychologists' perspective on pathways through school and beyond. (pp. 129-150) Springer.

- Dietrich, J., Jokisaari, M., & Nurmi, J. (2012). Work-related goal appraisals and stress during the transition from education to work. *Journal of Vocational Behavior, 80*(1), 82-92. doi://dx.doi.org/10.1016/j.jvb.2011.07.004
- Dietrich, J., Parker, P., & Salmela-Aro, K. (2012). Phase-adequate engagement at the post-school transition. *Developmental Psychology, 48*(6), 1575-1593. doi://dx.doi.org.ezproxy.jyu.fi/10.1037/a0030188
- Dietrich, J., Shulman, S., & Nurmi, J. (2013). Goal pursuit in young adulthood: The role of personality and motivation in goal appraisal trajectories across 6 years. *Journal of Research in Personality, 47*(6), 728-737. doi://dx.doi.org/10.1016/j.jrp.2013.06.004
- Eccles, J. (2009). Who am I and what am I going to do with my life? personal and collective identities as motivators of action. *Educational Psychologist, 44*(2), 78-89. doi:10.1080/00461520902832368
- Erikson, E. H. (1968). *Identity; youth and crisis*. New York: Norton.
- Heckhausen, J., & Wrosch, C. (2016). Challenges to developmental regulation across the life course. *International Journal of Behavioral, 40*(2), 145-150. doi:10.1177/0165025415588796
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010a). A motivational theory of life-span development. *Psychological Review, 117*(1), 32-60. doi:10.1037/a0017668
- Kline, R. B. (2011). *Principles and practices of structural equation modeling* (3rd ed.). New York: Guilford Press.

- Kracke, B., & Heckhausen, J. (2008). Lebensziele und bewaeltigung im jugendalter. In R. K. Silbereisen, & M. Hasselhorn (Eds.), *Entwicklungspsychologie des jugendalters. enzyklopadie der psychologie* (pp. 497-533). Gottingen: Hogrefe.
- Kroger, J., & Marcia, J. E. (2011). The identity statuses: Origins, meanings, and interpretations. In S. J. Schwartz, K. Luyckx & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 31-53). New York: Springer. doi:10.1007/978-1-4419-7988-9
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York, N.Y.: Springer.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Towards unifying social cognitive theory of career and academic interest. *Journal of Vocational Behavior*, *45*, 79-122.
- Little, B. R., Salmela-Aro, K., & Phillips, S. (Eds.). (2007). *Personal project pursuit: Goals, action and human flourishing*. Mahwah, NJ: Lawrence Erlbaum.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*(9), 705-717. doi://dx.doi.org.ezproxy.jyu.fi/10.1037/0003-066X.57.9.705
- Luyckx, K., Duriez, B., Klimstra, T. A., & De Witte, H. (2010). Identity statuses in young adult employees: Prospective relations with work engagement and burnout. *Journal of Vocational Behavior*, *77*(3), 339-349. doi://dx.doi.org.ezproxy.jyu.fi/10.1016/j.jvb.2010.06.002

Luyckx, K., Goossens, L., Soenens, B., & Beyers, W. (2006). Unpacking commitment and exploration: Preliminary validation of an integrative model of late adolescent identity formation. *Journal of Adolescence, 29*(3), 361-378.

doi://dx.doi.org.ezproxy.jyu.fi/10.1016/j.adolescence.2005.03.008

Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality, 42*(1), 58-82.

doi://dx.doi.org.ezproxy.jyu.fi/10.1016/j.jrp.2007.04.004

Luyckx, K., Schwartz, S., Goossens, L., Beyers, W., & Missotten, L. (2011). Processes of personal identity formation and evaluation. *Handbook of identity theory and research* (pp. 77-98). New York, NY: Springer New York. doi:10.1007/978-1-4419-7988-9\_4

Luyckx, K., Seiffge-Krenke, I., Schwartz, S. J., Crocetti, E., & Klimstra, T. A. (2014). Identity configurations across love and work in emerging adults in romantic relationships. *Journal of Applied Developmental Psychology, 35*(3), 192-203.

doi://dx.doi.org/10.1016/j.appdev.2014.03.007

Martinen, E., Dietrich, J., & Salmela-Aro, K. (2016). Dark shadows of rumination: Finnish young adults' identity profiles, personal goals and concerns. *Journal of Adolescence, 47*, 185-196. doi://dx.doi.org/10.1016/j.adolescence.2015.10.024

Milyavskaya, M., Inzlicht, M., Hope, N., & Koestner, R. (2015). Saying "no" to temptation: Want-to motivation improves self-regulation by reducing temptation

rather than by increasing self-control. *Journal of Personality & Social Psychology*, *109*(4), 677-693.

Muthén, L. K., & Muthén, B. O. (2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.

Nagy, G., Köller, O., & Heckhausen, J. (2005). Der Ü bergang von der schule in die berufliche erstausbildung: Wer die sorgen scheut, wird von ihnen ereilt [transition from school into vocational training]. *Eitschrift Für Entwicklungspsychologie Und Pädagogische Psychologie*, *37*, 156-167.

Nurmi, J. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review*, *11*, 1-59.

Nurmi, J. (2004). Socialization and self-development: Channeling, selection, adjustment, and reflection. In R. Lerner, & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 85-124). New York: Wiley.

Nurmi, J. -. (1993). Adolescent development in an age-graded context: The role of personal beliefs, goals, and strategies in the tackling of developmental tasks and standards. *International Journal of Behavioral Development*, *16*, 169-189.

Nurmi, J., Salmela-Aro, K., & Aunola, K. (2009). Personal goal appraisals vary across both individuals and goal contents. *Personality and Individual Differences*, *47*(5), 498-503. doi://dx.doi.org.ezproxy.jyu.fi/10.1016/j.paid.2009.04.028

- Porfeli, E. J., Lee, B., Vondracek, F. W., & Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence, 34*(5), 853-871.  
doi://dx.doi.org/10.1016/j.adolescence.2011.02.001
- Salmela-Aro, K., Aunola, K., & Nurmi, J. (2007). Personal goals during emerging adulthood: A 10-year follow-up. *Journal of Adolescent Research, 22*, 690-715.
- Salmela-Aro, K. (2003). FinEdu. Retrieved from <http://wiredminds.fi/projects/finedu/>
- Salmela-Aro, K. (2009). Personal goals and well-being during critical life transitions: The four C's—Channelling, choice, co-agency and compensation. *Advances in Life Course Research, 14*(1-2), 63-73.  
doi://dx.doi.org.ezproxy.jyu.fi/10.1016/j.alcr.2009.03.003
- Savickas, M. L. (2005). The theory and practice of career construction. In R. W. Lent, & S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 42-70). Hoboken, NJ: Wiley.
- Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L. F., . . . Waterman, A. S. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence, 40*, 839-859.  
doi:10.1007/s10964-010-9606-6
- Schwartz, S. J., Côté, J. E., & Arnett, J. J. (2005). Identity and agency in emerging adulthood. *Youth & Society, 37*(2), 201-229. doi:10.1177/0044118X05275965

- Shane, J., Heckhausen, J., Lessard, J., Chen, C., & Greenberger, E. (2012). Career-related goal pursuit among post-high school youth: Relations between personal control beliefs and control strivings. *Motivation and Emotion, 36*(2), 159-169. doi:10.1007/s11031-011-9245-6
- Sheldon, K. M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons for goals as predictors of effort and attainment. *Personality and Social Psychology Bulletin, 24*(5), 546-557. doi:10.1177/0146167298245010
- Skorikov, V. B., & Vondracek, F. W. (2011). Occupational identity . In Schwartz, Luyckx & Vignoles (Eds.), *Handbook of identity theory and research* (pp. 693-714). New York: Springer. doi:10.1007/978-1-4419-7988-9
- Tynkkynen, L., Dietrich, J., & Salmela-Aro, K. (2014). Career goal-related success expectations across two educational transitions: A seven-year longitudinal study. *European Journal of Developmental Psychology, 11*(3), 356-372. doi:10.1080/17405629.2013.840577
- Tynkkynen, L., Tolvanen, A., & Salmela-Aro, K. (2012). Trajectories of educational expectations from adolescence to young adulthood in finland. *Developmental Psychology, 48*(6), 1674-1685. doi:10.1037/a0027245
- Vondracek, F. W., & Porfeli, E. J. (2008). Social contexts for career guidance throughout the world: Developmental-contextual perspectives on career cross the lifespan. In J. A. Athanasou, & R. van Esbroeck (Eds.), *International handbook of career guidance* (pp. 209-225). New York: Springer Publishing.

Werner, K. M., Milyavskaya, M., Foxen-Craft, E., & Koestner, R. (2016). Some goals just feel easier: Self-concordance leads to goal progress through subjective ease, not effort. *Personality and Individual Differences, 96*, 237-242.  
doi://dx.doi.org.ezproxy.jyu.fi/10.1016/j.paid.2016.03.002

Wigfield, A., Tonks, S., & Klauda, S. L. (2009). Expectancy-value-theory. In A. Wigfield (Ed.), *Handbook of motivation at school* (pp. 55-75). New York: Routledge.

Wigfield, A., & Eccles, J. S. (2000). Expectancy–Value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68-81.  
doi://dx.doi.org/10.1006/ceps.1999.1015

Wright, R. A. (2016). Motivation theory essentials: Understanding motives and their conversion into effortful goal pursuit. *Motivation and Emotion Journal, 40*, 16-21.  
doi:10.1007/s11031-015-9536-4

Zimmermann, G., Lannegrand-Willems, L., Safont-Mottay, C., & Cannard, C. (2015). Testing new identity models and processes in french-speaking adolescents and emerging adults students. *Journal of Youth and Adolescence, 44*(1), 127-141.  
doi:10.1007/s10964-013-0005-7

Table 1

*Descriptive Statistics and Correlations of the Career Goal Success Expectations, Effort, and Stress at Age 16-23 and Career Identity Dimensions at Age 26 in the Total Sample.*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
	SE	SE	SE	SE	SE	E	E	E	E	E	S	S	S	S	S	CM	IC	EB	ED	RE
	16	17	18	21	23	16	17	18	21	23	16	17	18	21	23	26	26	26	26	26
<i>M</i>	5.47	5.60	5.74	5.78	5.88	4.66	4.80	4.83	4.69	4.94	4.26	4.33	4.55	4.64	4.75	3.46	3.28	3.61	2.82	2.79
<i>SD</i>	1.07	1.03	.98	.97	1.07	1.16	1.12	1.14	1.33	1.32	1.55	4.33	1.47	1.47	1.54	1.03	.98	.86	1.11	1.08
2.	.37**																			
3.	.20**	.40**																		
4.	.23**	.18**	.28**																	
5.	.14**	.19**	.19**	.23**																
6.	.42**	.13**	.09	.07	.11*															
7.	.13**	.35**	.12**	-.02	.01	.30**														
8.	.05	.17**	.40**	.08	.08	.29**	.40**													
9.	.12**	.02	.08	.40**	.10*	.16**	.10*	.20**												
10.	.07	.06	.13*	.12*	.40**	.13**	.24**	.19**	.27**											
11.	-.09*	-.07	-.05	-.03	-.03	.23**	.09*	.08	.08	.07										
12.	-.04	-.04	-.08	-.12**	-.09	.09*	.19*	.03	-.03	.04	.38**									
13.	-.06	-.09	-.11*	-.12*	-.05	.09*	.10*	.19**	.09	.05	.34**	.47**								
14.	.07	-.06	-.13**	-.06	-.08	.08	-.04	.04	.27**	.06	.26**	.24**	.39**							
15.	-.01	.06	.02	-.02	.04	-.01	.18**	.10	.05	.34**	.18**	.21**	.30**	.25**						
16.	.05	.03	.07	.16**	.13*	.12*	.08	.12*	.08	.15**	.09	-.03	-.03	-.07	-.09					
17.	.12**	.07	.09	.10*	.15**	.15**	.09	.15**	.03	.20**	.04	-.08	-.03	-.03	-.03	.63**				
18.	.14**	.08	.09	.04	.18**	.18**	.14**	.15**	.02	.16**	.09	-.00	.04	.12	.04	.43**	.43**			
19.	-.03	-.01	-.02	-.15**	-.15**	-.08	-.05	.01	-.12*	-.19**	.01	.01	.12	.09	.18**	-.39**	-.23**	-.05		
20.	-.11*	-.06	-.04	-.18**	-.24**	-.09	-.03	-.02	-.11*	-.23**	.03	.11*	.13**	.12*	.15**	-.60**	-.47**	-.17**	.67**	

*Note.* \*  $p < .05$ , \*\*  $p < .01$ . SE = success expectations; E = effort; S = stress; CM = commitment making; IC = identification with commitment, EB = exploration in breadth; ED = exploration in depth; RE = ruminative exploration. Time points marked with *italic* are measured after transition from compulsory education. Timepoints marked with **bold** are measured after transition from secondary education.

Table 2

*Standardized Path Coefficients of Latent Growth Curve Modelling on Career Goal Appraisals of Success Expectations, Career Goal Appraisal of Effort, and Career Goal Appraisal of Stress at ages 16-23 in Univariate Analysis Predicting Career Related Identity Dimensions at age 26 (N = 699).*

Intercept and slope at age 16-23	CM age 26	IC age 26	EB age 26	ED age 26	RE age 26
Intercept success expectations	.318**	.320**	.306**	-.312**	-.461***
Slope success expectations	.385*	.245	.187	-.433**	-.534**
Intercept effort	.266***	.304***	.324***	-.214**	-.245**
Slope effort	.201*	.221*	.093	-.332**	-.385***
Intercept stress	-.095	-.051	.152	.262**	.282**
Slope stress	-.329*	-.080	.132	.453**	.366**

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . CM = Commitment making, IC =

Identification with commitment, EB = Exploration in breadth, ED = Exploration in depth, and RE = Ruminative exploration.