A Critical Look at Parenting Research: An Examination and Contextualisation of

Autonomy Supportive and Psychologically Controlling Parenting

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A thesis submitted in total fulfilment of the requirements for the degree of

Doctor of Philosophy

26th of April 2018

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Dedicated to my lovely mother and father.

Mam, pap, I would have never gotten here if it was not for what you taught me

…

Acknowledgements

Many people influenced this thesis in diverse ways. These are too many people to each name individually, but there are a few people I specifically want to acknowledge. First of all, my primary supervisor Philip Parker, without you this thesis would be nothing like it has become. Your guidance, insight, and brilliance have been absolutely essential, and your faith in me has provided me with the means to see the journey through. It has been a privilege to have had the opportunity to tap into your knowledge. I am sure you do not mind the wordiness in which you are being acknowledged here. Joseph Ciarrochi, my co-supervisor, your profound insights and ideas were always essential to shine light on my work. You had a great hand in sculpting my thesis, and the spirit with which you provided me with your insights was always refreshing. To my associate supervisor, Katariina Salmela-Aro, thank you for always providing me with what was needed for my thesis and for always looking out for me. I am grateful I was able to visit you, this was an invaluable part of my candidature. Thank you, my three supervisors. Whoever said "good things come in threes" was right.

Of course, my PhD experience would have been nowhere near as memorable without my peers. In order of appearance, Brooke, James, Geet, Mike, Em, and Emma, you have all turned a supposedly solitary experience into the greatest intellectually social time. I am not lying when I say you have all made it possible to reach the end of my candidature, the support network you provided had no boundaries, and there was never a shortage of intellectual stimulation. And let's pretend none of you have ever distracted me. I do have to specifically pick you out Brooke, we have come a long way. I am so grateful to have shared this journey with you. You have been influential in where I have gotten and where I go, time and time again. Words cannot express how lucky I am. Of course, also thank you to all other PhD students at the IPPE, even when not mentioning you by name, each of you knows what your support has meant to me.
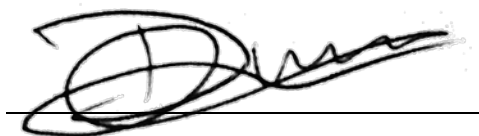
Thanks Bart, my brother, for always understanding and supporting what I do and the choices I make. This PhD has really robbed us from time together, regardless of the times you have attempted to steal some of that time back from my PhD! I'm grateful it is always like I never left whenever we see each other again. Bart, I have always taken your brotherly wisdom to heart even if it did not always seem like it. Looks like it has paid off.

To all close friends from where I grew up (you all know who you are), thank you for the support over the years. Thank you for making me feel like I never left whenever I see each of you again.

Last, I want to acknowledge the Institute for Positive Psychology and Education as a whole. I cannot think of a better place to have done my PhD candidature. The IPPE truly creates a vibrant, intellectually exciting environment. This environment has made me feel more like a colleague than a student, even though I learned so much every day. Well, the majority of the days anyway! Thank you.

Statement of Authorship and Sources

This thesis contains no material published elsewhere or extracted in whole or in part from a thesis by which I have qualified for or been awarded another degree or diploma in any other tertiary institution. No parts of this thesis have been submitted towards the award of any other degree or diploma in any other tertiary institution. No other person's work has been used without due acknowledgment in the main text of the thesis.

Jasper J. Duineveld

31/08/2017

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Abbreviations

Abbreviation	Full Term
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CONSORT	Consolidated Standards of Reporting Trials
EMA	Ecological Momentary Assessment
FinEdu	Finnish Educational Transition Study
MtG	Mind the Gap Study
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
RMSEA	Root Mean Square Error of Approximation
TLI	Tucker Lewis Index
SDT	Self-Determination Theory
SES	Socio-Economic Status
SEM	Structural Equation Modeling
WLSMV	Weighted Least Squared with Mean and Variance

Statement of Contribution of Others

Statement of Contribution to Chapter 5 (Study 1)

Study 1 – A Meta-Analysis of the Link between Autonomous and Coercive Parenting Styles amongst Children, Adolescents, and Emerging Adults: Developmental Stage Matters
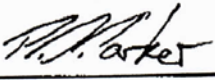
I, Jasper J. Duineveld, have conducted this study and acknowledge that my contribution to the above paper is 75%

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This study was done in collaboration with Associate Professor Philip D. Parker, Geetanjali Basarkod, Professor Joseph Ciarrochi, Professor Richard M. Ryan, and Professor Katariina Salmela-Aro. These collaborators have contributed their expertise to the above paper and acknowledge that their contributions range from 3 to 10 percent of the paper.
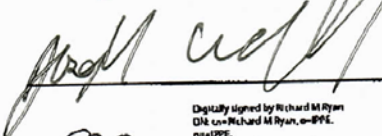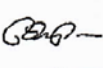
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Associate Professor Philip D. Parker: _____

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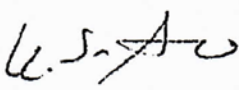
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Statement of Contribution to Chapter 6 (Study 2)

Study 2 – Difference in Kind, Degree, or Structure: Parenting Perceptions of Youth, Mothers, and Fathers, and the Relationship with Well-Being

I, Jasper J. Duineveld, have conducted this study and acknowledge that my contribution to the above paper is 70%

Signature: _____

This study was done in collaboration with Associate Professor Philip D. Parker, Professor Joseph Ciarrochi, and Professor Katariina Salmela-Aro. These collaborators have contributed their expertise to the above paper and acknowledge that their contributions range from 5 to 15 percent of the paper.

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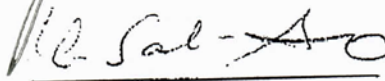
Associate Professor Philip D. Parker: _____

Professor Joseph Ciarrochi: _____

Professor Katariina Salmela-Aro: _____

Statement of Contribution to Chapter 7 (Study 3)

Study 3 – The Link between Perceived Maternal and Paternal Autonomy Support and Adolescent Well-Being across Three Major Educational Transitions, has been published in the peer reviewed journal *Developmental Psychology*.

I, Jasper J. Duineveld, have conducted this study and acknowledge that my contribution to the above paper is 65%

Signature: _____

This study was done in collaboration with Associate Professor Philip D. Parker, Professor Joseph Ciarrochi, and Professor Katariina Salmela-Aro. These collaborators have contributed their expertise to the above paper and acknowledge that their contributions range from 5 to 15 percent of the paper.

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Associate Professor Philip D. Parker: _____

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Professor Katariina Salmela-Aro: _____

Abstract

Parenting is critical to the healthy development of young people and has lifelong effects on

important life outcomes (e.g., well-being, education, identity development). We already know

a lot about parenting styles such as autonomy support and psychological control, and their

importance in adolescents' development, education, and well-being. Yet there are several

outstanding questions about these parenting styles specifically – and parenting research in

general – that must be addressed for the field to progress. This thesis investigated these

unanswered questions:

a) whether autonomy supportive and psychologically controlling parenting should be

    treated as two distinct constructs or two opposing sides of a single continuum;

b) whether it is important to distinguish between report types (e.g., youth's perception or

    parents' perception of parenting) or report targets (e.g., maternal or paternal

    parenting) when measuring parenting; and

c) how does context and developmental stage moderate the effects of parenting.

Study 1 is a meta-analysis that investigated the relationship between autonomy supportive

and psychologically controlling parenting ($k = 50$; #ES = 83; N = 31,979). The study

considered whether variance in this relationship is moderated by developmental stage of the

participants and varying approaches to measure parenting (i.e., report type and target). Study

2 is an empirical study that tested whether parenting responses are consistent regardless of

variations in approaches to measurement. The study also considered whether parenting

predicted well- and ill-being outcomes similarly across different measurement approaches.

This was explored with a Finnish sample of adolescents (N = 214) and their parents (mothers,

N = 142; fathers, N = 90) for the parenting styles autonomy support and psychological

control. Study 3 expanded on Study 1 and 2 to test how maternal and paternal autonomy

supportive parenting affects youth's well- and ill-being. This empirical study used

longitudinal Finnish samples covering three educational transitions (middle school, N = 760; high school, N = 214; post-high school, N = 853).

The results of this thesis demonstrated that:

a) autonomy support and psychological control are related but distinct constructs, and this relationship is moderated by developmental stage;

b) the same latent constructs (i.e., kinds of parenting styles) are measured regardless of variation in report type and target, however, differences between youth and parent perceptions do moderate the relationship between parenting and well- and ill-being; and

c) autonomy supportive parenting functions as both a protective factor against ill-being and a promotive factor for well-being around major educational transitions; and this is maintained across adolescence.

The findings of all three studies were discussed in light of implications for theory, future parenting research, and clinical parenting interventions.

Chapter 1: Introduction and Overview

Parenting is critical to the healthy development of young people, and has lifelong effects on important life outcomes. Parents generally influence their children by acting as role models and tutors for developmental tasks, helping to set and communicate development standards, and provide feedback and support (Eccles, 2007; Nurmi, 2004). Much research on parenting has already been done, and a lot of knowledge on parenting has been well established within this research. Even parenting styles like autonomy support, a parenting style that only gained attention around the end of the 20th century, have been subject to a plethora of research. This thesis argues that, despite a deep literature base, fundamental questions remain to be answered about the nature of parenting styles. Addressing these fundamental questions is essential to move parenting research forward. Much is known about how parenting styles, like autonomy support, affect individuals. This thesis will address issues relating to the way measurement of parenting is approached in research, structure of parenting styles, and developmental contextualisation that existing research struggles with. By addressing such issues this thesis helps ensure research on how parenting affects individuals is properly interpreted, parenting is optimally used in practice, and helps provide a firm foundation for future research. The main issues that this thesis tackles will now be described.

There is much inconsistency in the literature on interpreting the relationship between the autonomy supportive parenting style and psychologically controlling parenting style. Some research treats these two parenting styles as two opposites of a single continuum (e.g., Suchman, Ronnsaville, DeCosta, & Luther, 2007; Schaefer, 1959; Thirwall & Cresswell, 2010), whereas others treat them as distinct (e.g., Silk et al., 2003). The research that treat

autonomy support and psychological control as polar opposites often use reverse coded versions of either parenting style to measure the other (e.g., Liew et al., 2014; Suchman et al., 2007). However, if these parenting styles are distinct, as I argue in this thesis, then it is incoherent to treat low psychological control as indicative of high autonomy support, and low autonomy support as indicative of high psychological control. Much research has tested the relationship between autonomy support and psychological control but results range in their conclusions, maintaining the existing disagreement (e.g., Rueth, Otterpohl, & Wild, 2017; Luyckx, Soenens, Goossens, & Vansteenkiste, 2007). This thesis uses a large meta-analysis to tackle the disagreement and to test what moderates the relationship between autonomy supportive and psychologically controlling parenting; testing what may lead to said disagreement. Findings suggest that the relationship between these parenting styles may be dependent on context, and particularly the developmental context, thus questioning underlying assumptions about universality of parenting style structure.

There are many approaches research uses to measure parenting. This includes making distinctions between parenting report types (e.g., youth perception, parent perception, and observation) and parenting report target (e.g., maternal and paternal parenting; e.g., Cheung, Pomerantz, Wang, & Qu, 2016). No study, however, has tested how these different measurement approaches may affect interpretations of parenting effects on outcomes, or even if they measure the same constructs. This is an essential — yet almost universally untested — assumption that all approaches to measuring parenting styles reflect the same underlying construct. This thesis evaluates the assumption by testing how parenting report type and target differ, and how such different measurement approaches may moderate relationships between various parenting styles in predicting critical youth outcomes. These are fundamental questions that may affect the way past research is interpreted, future research is approached, and current parenting practice is informed. This thesis directly addresses the

measurement assumptions that underlie autonomy support and psychologically controlling parenting, and provides a strong basis for juxtaposing perceptions of parents and youth, parenting of mothers and fathers, the interaction of these perceptions and parental distinctions, and the role these distinctions may play in adolescent well- and ill-being.

A final focus of this thesis is to address how parenting may help contribute to positive adaptation (as measured by well- and ill-being) across major developmental transition of high school. This allows the consideration of specific context and developmental stage, components that parenting research often overlooks, despite being essential to child development research (see Bronfenbrenner & Morris, 2006).

The thesis thus uses two studies to tackle some fundamental questions in parenting research related to underlining parenting structure, the approach to research parenting, and developmental contextualisation. By seeking to answer these questions it was then possible to answer substantive questions regarding the effects of parenting on youth's well- and ill-being in the last study. By doing so, this thesis is able to strongly inform future research on approaches to parenting research and existing research on correct interpretation. The findings of this thesis can further be applied by informing parents on parenting practices to promote youth well-being, and inform interventions on parenting practices.

This thesis consists of three empirical studies that are bookended by a general literature review and discussion. Chapter 2 provides a literature review on the history of parenting research. This chapter discusses past research on child socialisation, leading to the child socialisation practices focused on in the thesis, and concludes by explaining why it is important to contextualise parenting research. Chapter 3 provides an overview of the issues in current parenting research. This chapter explains issues in the way parenting styles are measured, discusses the educational context in which this thesis will test parenting, and explains the role of development in parenting. Chapter 3 ends with a section on the research

questions explored in this thesis. Chapter 4 presents information on the methodology and design that is not already detailed in each individual study, and provides an overview of the Finnish context that most of the studies take place in. This includes a description of the data used and a discussion on the use of secondary data.

Chapter 5 provides a meta-analysis (Study 1) on the relationship between autonomy supportive and psychological controlling parenting, and tests how this relationship may be moderated by developmental stages and measurement approaches. Chapter 6 (Study 2) explores measurement invariance, differences in degrees, and relative agreement of autonomy supportive and psychological controlling parenting through different measurement types (i.e., child and parent perception) and targets (i.e., maternal and paternal parenting). Chapter 6 also tests how the different measurement approaches may moderate the relationship of well- and ill-being with autonomy supportive and psychologically controlling parenting (i.e., structural invariance). Chapter 7 applies the information gained from the methodological studies of Chapter 5 and 6 for a substantive study (Study 3). In this study, the effects of maternal and paternal autonomy support on well- and ill-being are tested across major developmental transitions of high school. Chapter 8 will conclude the thesis with a general discussion and implications for future research based on the empirical studies within this thesis.

Chapter 2: History and Background of Socialisation Research

Past and Present Approaches to Youth Socialisation, and the Importance of Contextualisation

The History of Youth Socialisation

Research shows that parental relationships are influential for young people's general developmental regulation and career development (e.g., Aunola & Nurmi, 2004; Dietrich & Salmela-Aro, 2013; Grolnick et al., 2000). Together with school, the family is the most critical institution that contributes to positive youth development. Families act as important role models and financial, emotional, and achievement-related support (Eccles, 2007). This support helps youth navigate adolescence and critical transitions. A lack of support can be a serious risk to a child's development as it may lead to reduced motivation and lowered well-being (Zarrett & Eccles, 2006). When adolescent students describe their strongest educational and career related social ties, they mentioned parents as their most important influence, mainly the mother, before friends or other groups (Otto, 2000; Salmela-Aro & Little, 2007).

Previous research has emphasised that it is important to not only consider the adolescents' own educational and career goals and behaviour, but also the influence of other significant relationships, such as parents, when exploring child development (Furman & Buhrmester, 1992). People share their goals. For example, young people try to achieve their goals by sharing their hopes and dreams with parents, making this relationship a two-way street (i.e., co-regulation; Salmela-Aro, 2009). When these parental ties are supportive, motivation is fostered and goal attainment becomes more likely (Salmela-Aro, 2013). Adolescents may not feel competent in their goal pursuit without an environment that provides support through the setting of behavioural expectations, clear guidelines, or task-

focused feedback (Farkas & Grolnick, 2010). Parents and children mutually influence each other; consequently, parents influence youth's self-development and play an important role in educational goals and trajectories, but this influence may also be affected by their children (Nurmi, 2004).

Attention to socialisation. Parenting research is focused on the processes associated with the socialisation of children. Research on socialisation revolves around adaptive development in accordance with requirements of the social group (see Maccoby, 1992). Socialisation is a process through which young individuals obtain the knowledge, cultural values, skills, and habits necessary to function adequately in society, and is often facilitated by adults (Baumrind, 1978). Adaptive socialisation includes youth outcomes such as being able to participate in the economy to maintain oneself and their family, forming close relationships with others, and avoiding behaviour that is disruptive (Maccoby, 1992). It is parents who have the responsibility to help their children through this process.

Parents are not the only source of socialisation, but are one of the most important sources because of close proximity to children, and the fact that parents usually have the opportunity to socialise children from infanthood (Maccoby, 1992). Socialisation can happen through a conscious and a passive path (Siegel & Kohn, 1959). Parents can put in effort to teach children, but even when no effort is put in, children can learn through imitation, where non-reactance may be seen as approval of their behaviour (Siegel & Kohn, 1959). This does not mean that a lack of socialisation efforts from parents leads to a child becoming independent through imitation; children may instead transfer dependency to peer groups where socialisation is out of the hands of parents (Bronfenbrenner, 1970). Socialisation of an individual does not only occur when very young. Children and adolescents are also sufficiently malleable to development of personality, values, and social skills (see Steinberg, 2014).

Research in the latter half of the 20th century started conceptualising socialisation efforts through the use of parenting styles. The two main questions emerging from this work related to a) what specific types of parenting styles there were, and b) the developmental consequences of these parenting styles. These questions emerged organically from the classic behaviourist and Freudian theories of parenting (see Darling & Steinberg, 1993). From this basis, I provide a historical review of how parenting research has evolved. This historical review will help explain the approach taken in this thesis. Earlier research on parenting focussed specifically on young children; therefore most of the review of the literature will focus on young children. However, the studies in this thesis mainly focus on adolescence, a developmental stage that has only received attention in more modern research.

The Earliest Parenting Research

The psychodynamic approach. Classic psychodynamic theories of socialisation were unidirectional, parents were solely seen as an influence on the child; ignoring the effect of the child on the parent (see Maccoby, 1992). Classic psychodynamic perspective focused on the emotional relationship, and how this relationship influences the psychosexual, psychosocial, and personality development of the child (Freud, 1991). Although this classic psychodynamic approach to parenting focuses on early childhood and is not commonly used in modern developmental psychology, it has formed the basis of many influential theories in child development, and provides one of the first approaches that highlight the importance of developmental stages in parenting and the involvement of introjection.

A well-known example of classic psychodynamic theory is Freud's theory of child development. In the early 1900s Freud argued that healthy adult personalities were promoted through early infantile needs related to infantile sucking, excretion, and genitalia (Freud, 1991). Appropriate gratification of these needs was seen to come from proper developmental timing of breast-feeding and toilet training. Too much restrictiveness or permissiveness in

child rearing practices was understood to have lasting effects on the child's personality (Freud, 1991). These effects on personality referred to fixation on a psychosexual stage (see Maccoby, 1992).

Classic psychodynamic theory of parenting was the first to include a developmental or stage type component. It saw childhood as the prime period of an individual's plasticity, with early childhood containing different psychosexual stages (Freud, 1991). The parent practices in classic psychodynamic theory involved child nurturing. The child's experience of such care would determine long-term child consequences, all related to sexuality and aggression (Freud, 1991). A child was said to experience conflict between love for their parents, nurturing from the parents, and fear of the loss of this nurturing through rejection, all because of the expression of their sexuality and aggression (see Maccoby, 1992). Tension around this conflict was, depending on the psychosexual stage, connected to different areas of the body (Freud, 1991). Children were said to overcome this conflict by introjecting their parents' values; forming an internalised representation of the parents (i.e., the superego; Freud, 1991). Conflict between the frustrated wishes and social norms developed to control the gratification of the needs through socially acceptable norms.

"Sexuality" was used by Freud as a general pleasure (Maccoby, 1992). Psychodynamic theory has, however, received criticism, with many arguing that a child's drives are not specifically sexual and that there is a lack of empirical research to support such ideas (See Maccoby, 1992). Nevertheless, the critical role of child's developmental stage in the relationship between parent and child is a critical insight that will form a central foundation of this thesis. It is important to note, however, that despite the recognition of developmental stages in the psychodynamic theory, it focused on early childhood development; a consistent limitation in early parenting research.

The classic behaviourist approach. Just like early empiricists (e.g., Locke, 1952), the early behaviourists saw socialisation pressures as a necessity (e.g., Watson, 1928). Children were viewed as "tabulae rasae", and could only be acculturated by reinforcement contingencies from the parents (for a review see Baumrind, 1978). Complex social behaviour was thought to be learnt through positive and negative consequences. The early behaviourist approach to parenting saw classical and instrumental conditioning as processes through which socialisation of children took places (see Baumrind, 1978). This was then often studied through observational studies, with the parent seen as the teacher, and the child seen as the learner (see Maccoby, 1992). According to Watson (1928), preparation for adult life, including moral education, already began with feeding and toilet training. As with classic behavioural theory, behaviours of children could be unlearnt if they were no longer reinforced, and things learnt as a child were seen as easily replaceable with other behaviours learnt later in life (Gewirtz, 1969). Socialisation was therefore simply seen as habitual responses that would occur under specific learnt circumstances. Such a learning model was mainly a model based on childhood with little consideration given to adolescence or the role of parenting over the life-course.

The learning model of socialisation research did not focus on parental attitudes, but the direct influence of parental behaviour (see Darling & Steinberg, 1993). Parenting styles, which are central to the current research, had their origin in studies that aimed to capture the behaviours of parents that defined an individual's learning environment (e.g., Sears, Maccoby, & Levin, 1957). The application and long term importance of these parenting behaviours were perceived very different in classic theory compared to modern parenting theory. Regardless of this difference, the method of measuring parenting through behavioural observation is also considered in this thesis, which has its origin in the behaviourist approach and is still commonly used in modern research.

Problems with classic psychodynamic and behaviourist models. Classic psychodynamic and behaviourist theory models dominated the views about parenting in the first half of the 20th century. Although both were based around the idea that parents had to take control as a teacher of the child for positive developmental outcomes and a proper integration into society, the approaches to child socialisation were fundamentally different. Early behaviourists saw the child as a tabula rasa, and were interested in how the close environment shaped development based on reinforcement (see Baumrind, 1978), whereas classic psychodynamic theorists argued for the centrality of primal biological impulses of children that are in conflict with social requirements, which parents have to keep under control (see Maccoby, 1992). Importantly, when exposed to empirical testing, both theories failed in their predictive capacity (Sears et al., 1957).

Modern research notes that part of the failure of these theories to stand up to empirical testing is because of the inherent views of a passive or reactive child (see Baumrind, 1978). It is now believed that children are intrinsically motivated to experience novel stimuli (Hunt, 1965). Research on intrinsic motivation showed that interest of a child in a specific task declines when rewards are removed from a task that the child was initially intrinsically motived to do (i.e., initially done out of interest, not for the reward; Deci, 1975). This demonstrated that it was not only reinforcement, but also interpretation of the child's own behaviour and what it was caused by, that influenced the child; thus negating some classic behaviourist views of a child as simply reactive.

Advancement in technology made sophisticated observational studies possible by recoding parent-child interactions in meticulous detail. Using such precise coding of sequences for observations made it possible to do moment-to-moment analyses (see Maccoby & Martin, 1983 for a summary of such research). Moment-to-moment analyses made it apparent that mothers did not only direct a child, but also adapted their interaction to their

child's state of attention (e.g., through the use of imitation; Maccoby & Martin, 1983). Thus

parent-child interactions were much more sophisticated than initially thought and not

unidirectional. Instead parenting appeared to be a joint project between parent and child.

Such a bidirectional interaction helps develop the child's social capabilities and leads to a

reciprocal system of socialisation. In this way, a social learning approach to parenting has

been modified into a social-interactionist approach (Patterson, Reid, & Dishion, 1992).

Unlike what was believed in the classic psychodynamic and early behaviourist

approaches, a review of parenting practice research concluded that specific parenting

practices (i.e., goal directed parenting behaviour such as spanking) were not consistently

related to child development outcomes (Orlansky, 1949). Instead it was thought that attitudes

of parents capture the emotional relationship between youth and parents, in which behaviours

such as parenting practices and subtle behaviours of the parent (i.e., non-goal-directed

behaviour such as spontaneous expressions) may together influence the child (see Darling &

Steinberg, 1993). This idea led to a shift from focus on parental practises to parental styles

(i.e., combinations of parenting practices and behaviours into broad categories) that were

thought to influence the child's development (Orlansky, 1949; Schaefer, 1959; Symonds,

1939). Just like classic psychodynamic and behaviourist theories, the early parenting style

approach also focused on early childhood. Indeed, as will be outlined below, this focus on

early childhood at the expense of noting the role of parenting styles as powerful factors in the

development of adolescents is a continuing legacy of early parenting theory. This thesis seeks

to help redress this imbalance.

Modern Parenting Approaches

Parenting styles are groupings of parents' behaviours that are expressed towards their

children. These include goal directed behaviours (i.e., parenting practices) and non-goal

directed behaviours (e.g., gestures, unexplained expressions characteristic to the parent;

Darling & Steinberg, 1993). Parenting styles were developed as a heuristic for parenting

practices and non-goal directed behaviours of parents to measure socialisation environments.

Rather than focusing on individual parenting practices or general parental behaviours,

researchers conceptually combined parental behaviours into broad categories. Parenting

styles were thought to have a greater potential to predict how emotional processes of a child

are affected by a parent, and thus affect development (e.g., Orlansky, 1949; Schaefer, 1959;

Symonds, 1939). Indeed, these styles were shown to predict youth outcomes better than

analysis of isolated instances of specific parental practices or behaviour.

  Generalised parenting styles gained traction and empirical research from different

theoretical orientations revealed common underlying dimensions. These underlying

dimensions include Symonds' (1939) acceptance and dominance, Baldwin's (1955)

emotional warmth and detachment, Schaefer's (1959) love and control, and Becker's (1964)

warmth and restrictiveness. In all these parenting styles children who were seen as well

socialised (Symonds, 1939) were found to come from parents that used similar parenting

styles. These styles often consisted of parents setting clear and rational guidelines, while

providing the child with warmth and autonomy (Baldwin, 1948). Components of such a style

were later recognised as autonomy supportive parenting (Deci & Ryan, 1985), the parenting

style focused on in this thesis. Interestingly, bits of both classic psychodynamic and

behaviourist models were evident in this style, as respectively affective and instrumental

processes were important in these parenting models.

  The modernisation of parenting measurement. Schaefer (1959, 1965) was one of

the first to thoroughly and empirically assess parenting. Through factorial analyses he created

the Child Report of Parenting Behaviour Inventory (CRPBI; Schaefer, 1965). The CRPBI

distinguished three factors that each consisted of two opposing dimensions. These were firm

control versus lax control, acceptance versus rejection, and psychological autonomy versus

psychological control (Schaefer, 1965). As will be noted below, this characterisation of parenting style dichotomies, particularly the last dichotomy, have had a lasting legacy. Schaefer was the first to measure the construct of psychological control. Multiple scales of parenting behaviour on parental direction, intrusiveness, and control through guilt were used to measure psychological control, and Schaefer established this type of control as the opposite, or equivalent to the absence, of autonomy support (Schaefer, 1965). This perspective of autonomy support as a continuum is a critical point that will, in this thesis, be shown to be contentious.

Schaefer's (1965) psychometric approach was, in itself, a revolutionary approach to parenting research. He was one of the first to assess parenting through youth self-report, something that is now the main approach to measure parenting and consequently taken for granted. Beyond observational or laboratory work, the youth's perspective provided a means of representing the youth's experience of the socialisation process. Youth self-report gave children a voice and treated them as active participants in parenting processes. This also contributed to a movement away from parenting research that focused solely on early childhood, introducing a greater focus on later childhood and adolescence.

Aggregation of Modern Parenting

Schaefer (1959) approached parenting research through parenting styles, an approach to measure parenting that had become dominant, but there was also a popular approach that aggregated parenting styles. By aggregating, or combining, parenting styles, Baumrind (1966) was able to analyse more encompassing parenting styles, as parents are unlikely to rely on a single parenting style. By doing so, Baumrind (1966) evolved parenting styles to provide a more comprehensive all-encompassing account.

Control was a central part to Baumrind's (1966) aggregated parenting styles. Baumrind (1966) stressed the importance of control, arguing that parents should use parental

control to achieve behavioural compliance as a means of integrating the child into society and the family. During child socialisation there is a tension between youth conforming to the parent, while attempting to develop some level of personal autonomy. In light of this tension Baumrind (1966) expanded on Baldwin's (1949) democratic model of parenting, which emphasised the importance of children's input in parental decisions that would influence the child; this was seen as optimal parenting. Baumrind combined behavioural control with the democratic model to define the optimal parenting style, creating an aggregated parenting style.

The behavioural control that Baumrind (1966) utilised was a combination of demandingness (i.e., boundaries that the child needs to conform to), confrontation (i.e., challenging actions of the child seen as bad), and monitoring (i.e., knowing what the child does) of controlling parenting practices. Although such control was seen as maladaptive by Baldwin (1949) and Lewin, Lippit, and White (1939), it was combined with the responsive and communicative parenting approach they approved of (for a review see Baumrind, 2013). This aggregation of behavioural control and democratic parenting was called authoritative parenting (Baumrind, 1966). Until then, control was thought of as a maladaptive parenting style. However, the combination of behavioural control with a democratic parenting style showed it was possible for control to lead to positive outcomes.

By aggregating different parenting styles Baumrind (1966) expanded on the importance of parental control, creating a more intricate understanding of parenting styles. Baumrind specifically distinguished between three types of parental control: authoritative, authoritarian, and permissive parenting. The difference between Schaefer's (1959) binary parenting styles, other unitary parenting styles (e.g., Baldwin, 1949; Lewin et al., 1939), and Baumrind's (1966) typologies, was that Baumrind combined parenting styles to create the three types of parental control. Different types of parental control, or typologies, did not only

consist of a controlling parenting style (e.g., behavioural control, psychological control), but also different degrees of an antithetical parenting style (e.g., communication, warmth). Synthesis of parenting styles was thought to differ in effects on child development than parenting styles individually. Each of the aggregated parenting typologies proposed by Baumrind (1966) differed in degrees of warmth or responsiveness and control. For example, both authoritative and authoritarian parents are very demanding (i.e., high on firm control), yet they differ in demandingness in a way similar to the distinctions between behavioural and psychological control that Schaefer (1959) made, and later others clarified (e.g., Barber, 1996; Steinberg et al., 1989).

With firm control, authoritative parenting is an aggregation of structure or behavioural control, warmth and acceptance, and autonomy support (Baumrind, 1996). Parents using this approach can show warmth and maintain high expectations of the child, while clearly communicating these expectations (Baumrind & Black, 1967). Yet, an authoritative parent also exerts firm control when the child disobeys, but does not overwhelm the child with restrictions (Baumrind, 1978). Such a parent shares their adult perspective with the child, and acknowledges the child's own interests. There are studies that show authoritative parenting has a positive effect on a children's adjustment regardless of the ecological context (e.g., ethnicity, socio-economic status, family structure; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Authoritative parenting provides a parenting typology that not only covers the parents' responsibility of socialisation, but also leads to gratification of the child's needs. The type of control was the most significant identifier of each aggregated parenting typology. Baumrind's (1966) other two parenting styles, authoritarian and permissive parenting, are characterised by coercive control and lack of control respectively.

Authoritarian parenting is a typology that consists of an aggregation of firm behavioural control, psychological control, and detachment from the child with low levels of

warmth (Baumrind, 1978). Authoritarian parents allow minimal input from the child or expression of the child's opinions and views (Baumrind, 1991). They see themselves as responsible to exert strict control and restrict the child's autonomy. The child has to see the parents' views as the right views, and the child's willingness to comply is seen as the only way to teach self-discipline, moral values, and personal agency (Baumrind, 2013).

Permissive parents use an aggregation of overindulgent warmth, lax behavioural control, acceptance, and independence (Baumrind, 1978). Such parents avoid controlling or correcting behaviour, and see control as a counterproductive force to a child's growth (Baumrind & Black, 1967). Permissive parents do not see themselves as active agents in the child socialisation process, and often come from the approach that children teach themselves and learn about socially approved behaviour through the natural tendency of self-actualisation (Baumrind, 1978; for a sociological account of this parenting approach see Lareau, 2011). As with authoritarian parents, permissive parents may use such a parenting style with two different intentions. Permissive parents can either be overly protective and loving, or self-involved, providing freedom to the child as a means to avoid responsibility of the child's socialisation (Baumrind, 1978). Compared to authoritative parenting, both authoritarian and permissive parents have been shown to put less demand on the maturing process of youth, and are similar in detachment and communication ineffectiveness (Baumrind, 1978).

Baumrind's (1966) typology approach was criticised by Lewis (1981), who noted that the aggregated typologies make it difficult to distinguish which aspect of the configural typologies affect the developmental outcomes. Therefore, conclusions made about processes through which parenting typologies actually influence youth remained speculative (Lewis, 1981). For example, the aggregated parenting approach does not show which behaviour of an authoritative parent actually produces healthy socialised youth. Lewis (1981) proposed that

the component of authoritative parenting that helped develop an autonomous sense of self in

children was not behavioural control. Instead she argued that it was the inclusion of youth in

decision making (i.e., the autonomy supportive aspects) in combination with following rules

that helped successful socialisation and internalisation of parental values. The aggregated

approach is still commonly used in present research. However, disaggregated parenting styles

have re-emerged as the favoured way of doing parenting research, and will thus be utilised in

this thesis.

   Separation of aggregation. Studies on parenting show that there are consistently two

fundamental aspects to parenting, one supporting component (i.e., nurturing, warmth,

affective), and one controlling component (i.e., regulation, discipline). Modern research that

uses parenting styles that are not aggregated, often choose relevant supportive and controlling

parenting styles based on Baumrind's (1978) typologies. Such research does not simply focus

on a supporting and controlling component, but also often makes an informed distinction

between the control type's sensitivity, another aspect of Baumrind's (1978) typologies. Such

parenting style use resulted in a consensus on three central dimensions of socialisation that

are relevant for healthy development of youth (see Barber, 1997). The first dimension is the

importance of parental warmth, or the connection of the child with the parent (Roher, 1976).

The second is adequate behavioural regulation of the child by the parent, or the provision of

structure. This is the idea, found in authoritative parenting, that it is advantageous for

children if parents set boundaries, as it helps children internalise rules (Kochanska, 1993).

Such provision of structure is now often measured with behavioural control (see Barber,

1997). The third and last parenting dimension is autonomy support. Autonomy support

facilitates the basic psychological need of youth for personal agency and freedom of

expression (Deci & Ryan, 1985). Autonomy support is often named together with

psychological control or substituted with psychological control as it compromises an

individual's autonomy (see Barber, 1996). These three dimensions have been shown to be

relevant through research of the last 60 years. Regardless, autonomy support has only gained

more traction in research at the end of the 20th century (Lareau, 2011). Consequently, more

questions remain regarding autonomy support than behavioural control or parental warmth,

making autonomy support the focus of this thesis.

       Consistent with Schaefer's (1959) study, the disaggregation of Baumrind's (1966)

typologies led to an increase in studies on psychological control because of its relationship

with autonomy support (e.g., Barber, 1996, 2002; Soenens, Vansteenkiste, Luyten, Duriez, &

Goossens, 2005; Steinberg, 1990). Steinberg, Elmer, and Mounts (1989) noticed the

importance of autonomy supportive components of Baumrind's (1966) typologies. Steinberg

et al. (1991) showed that adolescents who are involved in decision making demonstrate

greater self-regulation and impulse control compared to adolescents who have parents that do

not give choice, or even to parents who leave all the choice to the child. Deci and Ryan

(1986, 2017) also focused on the importance of autonomy support in their widely influential

Self-Determination Theory (SDT). In fact, many studies have shown that autonomy support

and psychological control affect well-being, or even daily changes in well-being (Van der

Kaap-Deeder, Vansteenkiste, Soenens, & Mabbe, 2016). Although typologies have been

shown to answer questions regarding parenting, disaggregation of parenting is required to

understand each parenting style specifically. There are many parenting styles, but because of

the continuously increasing number of findings about the relevance of autonomy supportive

and psychological controlling parenting (e.g., Aunola, Tolvanen, Viljaranta, & Nurmi, 2013;

Barber, Stolz, Olsen, Collins, & Burchinal, 2005; Chirkov & Ryan, 2001; Marbell &

Grolnick, 2013; Soenens, Park, Vansteenkiste, & Mouratidis, 2012; Soenens &

Vansteenkiste, 2005; van Petegem et al., 2012) it is these parenting styles that are central to

this thesis.

Autonomy Support and Psychological Control

Autonomy support. Autonomy supportive parents provide their children with choice, allow their children to participate in decision making, and encourage independent problem solving (Grolnick & Ryan, 1989). Autonomy support should not be confused with permissive parenting (Baumrind, 1966), which includes a lack of involvement or independence (see below). Autonomy supportive parents place importance on self-initiation, but actively participate in the socialisation process, assisting their child to express their own views and develop their own goals and values (Grolnick & Apostoleris, 2002).

One of the most important tasks of adolescence is the development of one's own views, goals, and values to create one's own identity (Erikson, 1982). Encouragement and help from parents to do so is beneficial for the child. The more identity development is self-endorsed, the more likely it is that individuals learn to take responsibility (Erikson, 1982). When individuals feel autonomous they feel as though they can choose what they want to aim for and how to achieve this with minimal external pressure. As this supports one's healthy development it is an excellent approach to the socialisation of children (Deci & Ryan, 1987; Grolnick & Ryan, 1989).

Some define autonomy as independence, but autonomy support should not be confused with simple independence. There are relational and personal well-being benefits to autonomy support that are not found for parents who simply encourage a child's independence (see van Petegem, Beyers, Vansteenkiste, & Soenens, 2012). It is important to clarify what is meant with autonomy support. Many studies conflate independence and autonomy, and there are studies that clearly separate independence from autonomy support (e.g., Soenens et al., 2007). This separation has led to a distinction between promotion of independence and promotion of volitional functioning (Soenens et al., 2007).

Those who describe autonomy support as promotion of independence see autonomy supportive parents as granting independence in decision making, thinking, and expression (Gray & Steinberg, 1999; Steinberg & Silk, 2002). The distinction between this and promotion of volitional functioning is that promotion of independence grants freedom and independence, where the adolescent is encouraged to distance themselves both physically and emotionally away from the parent, while promotion of volitional functioning is more of a collaborative approach (Soenens et al., 2007). With promotion of independence youth are encouraged to distance themselves from their parents while increasing responsibility for themselves. Although independence in and of itself was initially seen as a beneficial component of socialisation, it was found that the relationship between such emotional independence and adolescent functioning is negative (Beyers & Goossens, 1999), and that it leads to greater feelings of insecurity towards parents (e.g., Ryan & Lynch, 1989).

Under SDT autonomy refers to the authenticity and relative volition behind an individual's actions, while independence refers to the lack of reliance on others. Autonomy support within this thesis reflects the SDT definition, with the provision of volitional functioning being implied (see Soenens et al., 2007). This definition of autonomy support is characterised by parents who provide their children choices and the chance to give opinions when possible, support their children to act in their own interests, support cultivation of their children's own values, and are empathetic to the perspectives of their children (Grolnick, 2003; Ryan & Deci, 2017). This, in turn, makes it possible for adolescents to self-govern because they get a chance to act through their personal interests, values, and goals, and are made aware of these.

Autonomy and dependence are not mutually exclusive. It is possible for parents to care for their child and support autonomy at the same time. A young individual can experience a secure sense of attachment without feeling control over their actions (Ryan &

Lynch, 1989). Positive autonomous development revolves around self-governance, and a supportive relationship is not precluded from self-governance (Hill & Holmbeck, 1986). It is important to clarify such a distinction because independence does not necessarily involve volitional functioning. An individual can be independent because independence was encouraged as a value, or was a result of detachment from uncaring or unreliable others, yet not experience a sense of volition. Such independence may not be consistent with what the individual needs or wants. A young individual can also be autonomously dependent when choosing to rely on parents for support or guidance (Ryan, 1993). As such, when autonomy support is mentioned in this thesis, it is not independence, but promotion of volitional functioning that is implied.

There are numerous studies that show the benefits of autonomy supportive parenting. Educational outcomes of an autonomy supportive home environment include benefits such as autonomous study motivation, academic competence, and achievement (Soenens & Vansteenkiste, 2005), effective use of learning strategies (Vansteenkiste, Zou, Lens, & Soenens, 2005), and negatively predicts maladjustment such as learning problems (Grolnick, Kurowksi, Dunlop, & Hevey, 2000). Other outcomes include high subjective general well-being, low depression, low levels of physical complaints, low anxiety, high self-esteem, high life satisfaction (Bean & Northrup, 2009; Chirkov & Ryan, 2001; Black & Deci, 2000; Vansteenkiste et al., 2005). All these outcomes demonstrate how autonomy supportive parenting is a highly influential approach to child socialisation that is thus essential to accurately understand.

Psychological control. Although the definition of autonomy support and related outcomes are now well established, focus of past research was initially directed to the absence of psychological control (Barber, 1996). Psychological control refers to controlling actions of the parents that involve cognition, emotions, and other psychological experiences

of the adolescent (e.g., deliberately changing the child's feelings, ignoring the child's thoughts). Although many researchers think of this as a blunt approach with visible manipulation and pressuring of the child, it is a subtle and often covert approach to child socialisation (for a review see Soenens & Beyers, 2012). Psychological control is also a key feature of Baumrind's (1966) authoritarian parenting typology, and is at times named coercive parenting (e.g., Padilla-Walker & Nelson, 2012). Compliance with this type of control is solely based on fear of punishment or disapproval by the parent, where the parent pits the need for relatedness against the autonomy need (Ryan & Deci, 2017). This is clearly distinct from autonomy support where the child is encouraged to express alternative ideas, and is therefore often seen as the polar opposite of autonomy support. It is for this reason that this thesis does not only focus on autonomy support but also on psychological control.

As mentioned earlier, Schaefer (1959) was the first to describe psychological control, defining it as covert control where the child's thoughts and behaviours were the focus of the control. This parenting approach would hold the child back from developing as an individual separate from their parents. Barber (1996) was one of the first to measure psychological control since Schaefer (1965), and elaborated on Schaefer's work. Barber (1996) explained that essential in measuring psychological control is the exploitation and manipulation of the relationship between the parent and the child, which includes withdrawal of love and guilt induction; personal attacks and criticism towards the child, such as expression of shame and disappointment; and excessive control of the child, including constrain of verbal expression. Control over a child's individual expression, lack of autonomy, constant belittlement, and lack of healthy interactions makes it difficult for a child to develop self-efficacy and a stable identity (Barber, 1996).

Psychologically controlling parental practices have been cross-validated across different cultures and nationalities (Barber et al., 2005; Soenens et al., 2012; Wang,

Pomerantz, & Chen, 2007). Psychological control has at times been described as dependency-promoting parenting (see Barber & Harmon, 2002 for a review). However, it has been shown that psychological control can encourage premature and undesired independence (Soenens, Vansteenkiste, & Sierens, 2009). In fact, Soenens et al. (2010) created a measure on psychological control that distinguished between dependency-oriented psychological control and achievement-oriented control. The former measures a parenting practise that aims to get children to be psychologically and emotionally dependent on the parent, whereas the latter measures a parenting practise that demands high achievement from the child to get recognition from the parents. Both types of psychological control have been found to be uniquely associated with effects on youth's depressive symptoms and characteristics of parents (Soenens et al., 2010, 2012). Nonetheless, psychological control in this thesis will refer to a controlling and pressing parenting style in accordance with Barber (1996), as described above.

As mentioned before, psychological control re-emerged in research after a distinction was made between behavioural and psychological control (Baumrind, 1966; Steinberg, 1990). It is important to not confuse the two types of control. Parenting research is full of references to controlling parenting styles that are different and often contradictory (see Pomerantz & Ruble, 1998). Controlling parenting can refer to discipline, structure, coercion, and some studies even use supportive control to refer to autonomy support (e.g., Stefanou, Perencevich, DiCintio, & Turner, 2004). The distinction between psychological and behavioural control however, is that behavioural control is goal oriented, fair, subject to negotiation, and consistent, with the intent to put reasonable structure in a child's life (Barber, Stolz, & Olsen, 2005). Psychological control is often used to simply assert power and is more erratic, strict, manipulative, and may undermine autonomy (Barber, 1996). Psychological control is known to be associated with detrimental outcomes for child

development (e.g., Silk et al., 2003). Alternatively, it has been found that behavioural control

is associated with higher self-esteem and other positive effects on well-being and academic

functioning (e.g., Wang et al., 2007). Control can be beneficial, but too much control or a

control style that is too restrictive can be an issue (Wang et al., 2011). Therefore, it needs to

be made clear that this thesis focuses on the type of control that has been perceived to be

detrimental for child development (i.e., psychological control) not the type of control that is

beneficial to child development (i.e., behavioural control).

Psychological control is generally associated with antisocial behaviour and depressive

symptoms (Barber et al., 2005). Psychological control may thwart youth's autonomy,

consequently reducing autonomous motivation (Barber, 1996). Lowered autonomous

motivation can result in less motivation to learn, and thus reduced academic achievement and

overall decreases in well-being (Barber et al., 2005; Chirkov & Ryan, 2001; Marbell &

Grolnick, 2013; Soenens et al., 2012). These clear negative effects on child development and

education make psychological control an important parenting style to study.

Although psychological control is associated with negative influences on child

development, there are a few reasons why parents may choose to be psychological controlling

as opposed to autonomy supportive. A study by Landry et al. (2008) found that parents might

employ a more controlling parenting strategy when they do not trust that positive

development will occur naturally. It is likely that such parents experience more stress

surrounding the child's development and are thus more controlling. Parents may also use

psychological control to let the child experience potential negative effects the child's

misbehaviour may have had on others (see Churchill Keating, 2008), but this has not been

tested before. Context also plays a role in determining whether parents use psychological

control over autonomy support. Parents may experience internal pressures (e.g., worries,

anxiety) or external pressures (e.g., time) in their lives that may lead to the use of

psychological control (Grolnick, 2003). This is because psychological control requires less

time and effort than autonomy support and requires less psychological availability (Grolnick,

2003; Grolnick, Gurland, DeCourcey, & Jacob, 2002; Gurland & Grolnick, 2005; Soenens,

Vansteenkiste, Duriez, & Goossens, 2006). This, in turn, demonstrates that context may

affect the parenting style utilised by parents.

Contextualisation of Parenting

It is important to take into account the context and complexities when studying child

socialisation (e.g., cultural climate, life domain), especially when exploring how socialisation

relates to well-being (e.g., Manzi, Regalia, Peluichi, & Finham, 2012). Sociologists, more so

than psychologists, have long been interested in the influence of the broad social context in

parenting. In particular, sociologists studied the family's role in transmitting values to

children and the maintenance of social order, which are essential in a structural functional

approach (Bronfenbrenner, 1958; Parsons & Bales, 1955). For example, the Wisconsin model

of socio-economic attainment emphasises the central role that parenting plays in educational

and occupational attainment with a focus on socioeconomic context of the family (Sewell,

Haller, & Portes, 1969). In this model interpersonal context is viewed as an intermediate

between social structures and aspirations where parental influences were found to be the most

influential of these social structural factors. Aspiration, in turn, was hypothesised to mediate

attainment (Haller, Woelfel, & Fink, 1968; Sewell et al., 1969).

The most enduring focus on the contextualisation of parenting came from

Bronfenbrenner's (1979) ecological theory of human development. Bronfenbrenner's work

highlighted the need to understand social systems such as the parent-child relationship not as

something that exists in a "social-vacuum", but as a system that is in constant coordination

with other social systems (see Bronfenbrenner, 1979). From this perspective parents also act

as an intermediate of more distal contexts on youth's development. As this thesis concerns

human development, it will contextualise the role of parenting in a broader developmental context.

The ecological model of human development. One of the lasting legacies of the ecological model is that children should be studied in their real life environments rather than the lab (Bronfenbrenner, 1979). Critical for the current thesis, Bronfenbrenner (1979) emphasised the role that age-graded developmental transitions (e.g., the transition from middle school to high school) could function as natural experiments. Bronfenbrenner's ecological model influenced a large variety of research in varying domains (e.g., parenting, economics, and political research) and changed perception of how these domains affect development from childhood to adulthood. Parents are a major influence in many spheres of the ecology of the child, and are thus greatly influential in child development (Bronfenbrenner & Morris, 2006). It is therefore important to understand how parents affect youth and how they do so in context. This idea is one of the major focuses of this thesis.

Bronfenbrenner's (1979) ecological model of human development posits that development is the continuity and change in an individual's biopsychological characteristics, both through the life span, and across generations. These characteristics are influenced by four defining properties surrounding humans. The defining properties, which also interact among each other, are processes, person, context, and time (Bronfenbrenner & Morris, 2006). Processes, or practical processes, cover the interaction between the individual and its environment that happen over time (e.g., the child-parent interaction; Bronfenbrenner & Morris, 2006). These are seen as the main defining property as it is the core mechanism that leads to human development. The way and power with which these proximal processes affect development however, vary depending on the *persons'* characteristics, the environmental *context*, and the *time* in which these processes take place (Bronfenbrenner & Morris, 2006).

This thesis will specifically consider processes, time, and context of a child's development. The main focus is the *processes* of the socialisation of children by parents, particularly autonomy supportive and psychologically controlling parenting, which have been discussed in detail in the first part of this chapter. *Time* (i.e., development of the child) will be taken into account while exploring these parenting processes, specifically to test whether it moderates relationships between specific parenting styles and when testing the effects of socialisation on well-being in the *context* of multiple educational transitions. Both development and the educational context in relation to parenting will be discussed in the following chapter. As the ecological model explains, historical context may also affect which parenting styles parents decide to utilise. In fact, it was not until the late 20th century that the sort of autonomy supportive parenting that is now seen as most beneficial practice was seen as a valid option as an approach to parenting (Lareau, 2011). It is for this reason that research on autonomy support is more important now than it was before.

The Rise of Autonomy Support

Autonomy supportive parenting seems very beneficial for youth, but there were reasons for why this was not always seen as the optimal approach to parenting. Indeed, from a critical theory perspective, best parenting practices may simply be viewed as historically contingent fades with no factual claims to superiority (Lareau, 2011). However, it should be noted that real historical progress in parenting has been made, and that the prevalence of psychologically controlling or authoritarian parenting in the western world for the past century pales in significance to eras in which child slavery and child labour were common (Pollock, 1983).

Modern socialisation approaches were mainly shaped by post-industrial capitalism (for a review see Baumrind, 1978). It was this time period that heavy involvement of parents was seen as important for children from all backgrounds for the first time. The 18th century

saw further movement in thinking about the involvement of parents in a child's upbringing. Instead of physically controlling children through beating, which was increasingly seen as inappropriate, parents started to control and manipulate the children's feelings and needs (see Baumrind, 1978). In the Victorian age, psychological control, and particularly control via guilt induction and belittlement, became more common as a central tool of parenting. Nonetheless, punishments such as locking the child up and corporal punishment were still seen as viable options to parenting (Pollock, 1983). The socialisation approach generally changed from more physical to psychological which is consistent with Foucault's perspective of the historical change from government and social control of citizens via external corporeal means to modern psychological and internalised means of control (Foucault, 1977). The changing approach toward psychological control was not because parents did not care about their child or about what their child felt, but this was seen as a normal approach to socialisation and was consistent with a more global historical change in the way power over others was exercised (i.e., from external and corporeal to internal and psychological; Pollock, 1983).

As discussed in the section on the history of parenting measurement, early 20th century was the start of a more scientific approach to parenting. This started with behaviourist Watson (1928) warning parents against showing too much love to avoid spoiling a child, which encouraged continued use of a more coercive or authoritarian parenting approach. Watson's warning was despite research beginning to show that a child's feelings and emotions, such as fear and anger, are important influences on development (e.g., Lewin et al., 1939). Regardless, love was viewed with scepticism. Watson (1928) argued that feelings and emotions show weakness and reflected a person who is out of control. Parents were thus advised to keep their child's emotions in check given children's need to fit into a strict controlling society.

Promotion of autonomy support became more common around the 1970s when a rise in individuation took place. In France, this rise in individuation was started as the "quiet revolution" (Bonvalet, Clément, & Ogg, 2014). Baby boomers that were now grown up had considerable freedom, and wanted to establish a different relationship with their children than they had with their own parents (Bonvalet et al., 2014). In this new relationship a child was believed to realise its optimal potential by receiving autonomy from the parents. Baby boomers were some of the first to enter adulthood in a favourable economic environment and a climate based on freedom that provided sufficient resources for parents to engage in autonomy building behaviours with their children (Bonvalet et al., 2014). This played a role in the creation of a new type of relationship between parents and their children. Child socialisation was now seen as a parent educating the child, treating the child with respect, with general understanding of how parenting and potential discipline influences the child.

This thesis will focus on autonomy support and psychological control with an acknowledgement of the current historical climate that makes such a distinction both meaningful and important across the majority of society. Why specifically autonomy support is so important is further explained through Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2017). In brief, while it is clear that parenting approaches are historically contingent, what children's basic needs are is not. From an SDT perspective, autonomy has, and will always be, a fundamental requirement of human beings (Ryan & Deci, 2017). What may now be claimed is that, unlike older approaches to parenting, more modern approaches are better adapted to meeting this universal human need for autonomy.

Self-Determination Theory

Self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2017) explains that autonomous motivation is better for individuals than controlled motivation, especially for an individual's development, as it satisfies one's basic psychological needs. Self-determination

theory focuses on social contextual variables, such as parenting, that promote successful adaptation via self-motivation and healthy psychological functioning (Ryan & Deci, 2000, 2017), such as parenting. With research on these social contextual variables in the context of an individual's development, SDT can help formulate an understanding of the mechanisms of development and the contextual determinants involved. Furthermore, SDT provides a good framework to guide application of knowledge to practice.

Need satisfaction. Self-determination theory approaches human motivation by highlighting the importance of psychological needs (Deci & Ryan, 1985). Outside of SDT there are theoretical ambiguities about what exactly psychological needs are. The term "need" is used by personality theorists and developmental psychologists in two separate ways. One interpretation of 'need' refers to motivational force of an individual that informs goal directed behaviour and organises perception (Murray, 1938). This broad type of need includes practically any desires and wants, such as perceptions of needing more money and needing medicine. The other definition of psychological need is more focused, and refers to the need for sustenance, growth, and health (Ryan, 1995). These are needs that are necessary for well-being. In the psychological realm it is important to distinguish between what people may want by virtue of their habits and what people need that is essential to sustain well-being. Knowing what is truly required helps set up proper standards of care and interventions (Ryan, Sheldon, Kasser, & Deci, 1996). A looser conception of need may fail to touch on what is helpful for people. Self-determination theory focuses on three psychological needs for optimal functioning: autonomy, competence, and relatedness (Deci & Ryan, 1991). These needs provide distinct "psychological nutrients" (Ryan & Deci, 2017). When these three needs are satisfied, a sense of well-being and continued intrinsic motivation is experienced.

The competence need has to be satisfied for individuals to feel capable, know what to do and how to do it, and are confident to do so, as opposed to feeling inept or inadequate

(White, 1959). A social context that is supportive of one's competence has high expectations and provides structure, means to complete a task (e.g., clear instructions, good information), and rich feedback (Ryan & Deci, 2017).

Individuals who are satisfied with their sense of relatedness feel connected and are involved with others that are important to them. They feel liked, accepted, and like they belong with whom they surround themselves with (Baumeister & Leary, 1995). Such people generally do not feel left out or marginalised. The social environment supports one's feeling of relatedness by showing warmth and care, by building an individual relationship where it is clear they value the other, and by taking time for the other (Ryan & Deci, 2017).

As touched on when describing parental autonomy support, autonomy refers to the feeling that one's behaviour is self-directed and meaningful, with choice, not pressured or controlled (deCharms, 1968). It is to act with volition, and to still be able to express one's own thoughts and feelings. The environment can support autonomy by providing meaningful choices, taking one's input serious, and providing a rationale for any possible boundaries (Ryan & Deci, 2017). A great number of studies have shown that autonomy support alone increases not only autonomy, but also competence and relatedness satisfaction (e.g., Deci et al., 1981; Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Gagné, 2003; Grolnick, 2003; Ryan & Grolnick, 1986; Silk et al., 2003; Soenens & Vansteenkiste, 2005).

Low satisfaction of any of the three needs hinders an individual's development, and frustration of the needs can have worse effects, even leading to illness (e.g., Bartholomew, Ntoumanis, Ryan, Bosch, & Tøcerson-Ntoumanis, 2011). For example, someone who feels low autonomy towards homework may have low interest and vitality to actually do homework. However, one can also feel controlled and forced to do homework, which, depending on the type of control, may lead to severe anxiety or depressive symptoms (e.g., Barber, 1996). Thus, it is important to distinguish between low autonomy (i.e., low need

satisfaction) and feeling controlled (i.e., need frustration). All three needs are essential for

psychological growth and adjustment in all cultures (Deci & Ryan, 2017). However, the

focus of this thesis lies on the satisfaction of autonomy through autonomy support, and the

frustration of the autonomy need through psychological control.

Types of motivation. The need for autonomy has generally been operationalised

through motivational processes. This thesis will not directly test effects on motivation, but

understanding how the need for autonomy affects motivation helps understand the

relationship between autonomy support and well-being relevant to the educational context

that will be important in this thesis. There are distinct motivational types that reflect different

levels of autonomous motivation (Deci & Ryan, 1985). Intrinsic motivation reflects the

highest degree of autonomy, while extrinsic motivation reflects the lowest degree of

autonomy (Deci& Ryan, 1985). The former refers to the engagement in an activity for the

sake of engaging in this activity and to experience pleasure from this engagement. The latter

refers to engagement in an activity as a means to an end, rather than actually wanting to

engage in the activity (Deci & Ryan, 1985). For example, from an SDT perspective,

psychological control from parents is seen as need-thwarting, particularly hindering

autonomy. This is because psychologically controlling parents try to make their children

comply with what they want through coercive means (Soenens & Vansteenkiste, 2010). As

such, compliance of children becomes a means to an end under psychological control.

The three basic needs – autonomy, competence, and relatedness – lay a foundation for

intrinsic personal goals and related behaviours (Deci & Ryan, 2000; Salmela-Aro, Vuori, &

Koivisto, 2007). Not all personal goals represent authentic interests and values of an

individual (Sheldon & Eliot, 1998). For example, intrinsic goals are usually consistent with

the person's developing interests and core values. Whereas goals pursued because of external

pressure (i.e., external goals) have its origin outside of the individual, and are controlled goals

(Deci & Ryan, 1991). Intrinsic goals are not necessarily self-gratifying, considering

unpleasant tasks can be guided by a mature valuation. Intrinsic goals are more about whether

the person feels ownership over a goal as it is pursued (Sheldon & Elliot, 1999). Individuals,

who pursue autonomous, self-concordant goals, maintain more effort to achieve the goals.

This is associated with efforts weeks later and thus making the goal more likely to be attained

(Sheldon & Elliot, 1998). On the contrary, controlled motivation predicts initial efforts and

intents towards the goal, but does not predict actual effort a few weeks later, and thus has no

control over actual attainment (Sheldon & Elliot, 1998).

According to SDT several types of extrinsic motivation exists, each with varying

levels of autonomy. From low to high autonomy these types of extrinsic motivation are:

external regulation, regulation of behaviour through external means, such as rewards or

constraints; introjected regulation, partially internalised behaviours limited to internalisation

of external controlled sources such as guilt; and identified/integrated regulation, behaviour by

choice, fully internalised, showing the importance, for example going to school to get a

diploma or picking up dog poo when no one is watching (Deci & Ryan, 1985; Ryan &

Connell, 1989). People who act for intrinsic motivation and identified regulation get their

autonomy need satisfied, whereas individuals acting from introjected or external regulation

do not.

The opposite of autonomy is heteronomy, which refers to the pressure to act, think, or

feel in certain ways (Ryan & Deci, 2017). This can be done through psychologically

controlling practices, and the frustration of the autonomy need poses a risk of maladjustment

or even psychopathology in adolescents (e.g., Barber, 1996). Social context is one of the

factors that either facilitates or thwarts the experience of autonomy that has led to many

laboratory and field studies trying to identify the social context with the greatest influence,

and investigating exactly how these contexts affect the experience of self-determination (see

Ryan & Deci, 2017). In summary, SDT suggests that an autonomy supportive context promotes perceptions of autonomy, which in turn promotes intrinsic motivation, which leads to positive outcomes (Deci & Ryan, 1985; Ryan & Deci, 2017). Although SDT is not strictly a developmental theory, it does appear to be highly relevant to positive socialisation and development of youth (Joussemet, Landry, & Koestner, 2008), and so this thesis focuses on the parenting environment that provides youth with an autonomy supportive context.

Basic need satisfaction and frustration can be the single underlying principal that accounts for both well-being and ill-being of people's functioning (for a review see Vansteenkiste & Ryan, 2013). Across SDT research it has been found that the most positive outcomes, such as good academic performance, well-being across age and gender (La Guardia, Ryan, Couchman, & Deci, 2000; Soenens et al., 2012), a sense of wellness that leads to increased resilience (Ryan et al., 2008), and general eudaimonia, are associated with autonomy support and the satisfaction of the need for autonomy, an ideal component of positive child development (Grolnick, 2003). Whereas the most negative outcomes such as poor self-esteem, stress, school dropout, psychological distress, and depressive symptoms are associated with controlled motivation (e.g., Soenens, Luyckx et al., 2008; Ryan & Deci, 2017; Vallerand, Fortier, & Guay, 1997). In fact, frustration of the autonomy need is a strong predictor of aggressive behaviour (Joussemet et al., 2008), including more discrimination towards minorities (Duriez, Vansteenkiste, Soenens, & De Witte, 2007). All together this demonstrates that there are costs of autonomy need frustration to social functioning, personal functioning, and society (Vansteenkiste, Soenens, & Duriez, 2008), demonstrating why autonomy support is such an important topic of research.

Autonomy support and psychological control show great influence over young individuals, yet confusion about these parenting styles, such as the conflation of autonomy with independence explained before (van Petegem et al., 2012), still exists. In this thesis I

will explore issues in parenting research that still exist, in particular the disagreements regarding the relationship between autonomy support and psychological control (e.g., Silk et al., 2003), and different approaches to measure parenting. After clarifying such issues the effects of parenting will be tested in the context of educational transitions, as this is central to the development of an adolescent. The following chapter will discuss issues in parenting research that will be explored in this thesis, the relevance of the educational context, and the importance of accounting for development when explaining parenting.

Chapter 3: Modern Research on Parenting

Issues in Research, the Educational Context, and Youth Development

In the previous chapter I discussed the history of parenting research, how this created the basis for modern parenting research, and basic theories used in parenting research which drive modern research. This chapter will explain issues that are currently limiting modern parenting research, discuss how development in context is an important, often overlooked, aspect of parenting research, and explain how development in context will be utilised in this thesis while testing solutions to issues in current parenting research. First I will explain the three issues in research that this thesis will directly deal with: the confusion regarding the relationship between autonomy supportive and psychologically controlling parenting, the lack of measurement distinctions between the parenting perceptions of youth and parents, and the lack of measurement distinction between maternal and paternal parenting. I will then explain why it is important to not only test parenting in a specific context but also in a developmental model; an often overlooked aspect of child development research. Afterwards I will explain how this thesis will address the three issues while testing the effect of parenting on well- and ill-being, which, to account for development in context, will be tested in the context of multiple educational transitions. Last I will provide an overview of each individual study within this thesis.

Modern Issues in Parenting Research

Autonomy support versus psychological control. Past research has shown that autonomy support and psychological control are two important parenting dimensions that help predict outcomes like psychological adjustment, self-regulation, competence, and achievement (Grolnick, Deci, Ryan, 1997; Joussemet et al., 2008). This brings me to one of

the key issues in parenting research that is specific to the constructs of autonomy support and

psychological control. Since Schaefer's (1959; 1965) early parenting research, autonomy

supportive parenting has been defined as the opposite of psychological control. Autonomy

support and psychological control were treated as a single binary parenting style, yet there

remains a disagreement between researchers about whether one truly is the polar opposite of

the other.

The disagreement regarding the two parenting styles is an issue in research because

many studies on psychological control, and even on autonomy support, have relied on the

assumption that one is the opposite of the other (see Barber & Harmon, 2002; Steinberg,

1990). Therefore empirical research has often measured autonomy supportive parenting by

reverse coding a measure of psychological control (e.g., Herman, Dornbusch, Herron, &

Herring, 1997; Suchman, Rounsaville, DeCoste, & Luthar, 2007) or vice versa (e.g., Liew,

Kwok, Chang, Chang, & Yeh, 2014). If the two parenting styles are not actually polar

opposites (for example, if control is not merely the absence of autonomy support), it means

that the reverse coding approach does not measure the intended parenting dimension. To

accurately represent autonomy supportive or psychological controlling parenting in research

it is safer to first evaluate the assumption they are truly polar opposites (Barber, Bean, &

Erickson, 2002). This thesis will present a meta-analysis and a detailed measurement study to

test the relationship between autonomy supportive and psychologically controlling parenting,

and how this relationship may be moderated by other factors. One of these tested moderating

factors is the varying approaches used to measure parenting styles.

Youth versus parent perception. Most studies measure youth's perception of

autonomy support, and then test how that perception predicts concurrent levels of well-being

in youth (e.g., Deci et al., 2006; Soenens et al., 2012). Although it is becoming increasingly

common to also include parent reports in research (e.g., Cheung et al., 2016; Prout, 2015;

Rueth et al., 2017) this has not become the norm yet. It is important to use multiple sources

and perspectives to draw accurate conclusions about the use of autonomy support or any

parenting style. Different report types such as youth and parent perceptions make it possible

to distinguish between, say, depressive symptoms truly affecting autonomy support from

parents, or only affecting the adolescent's perception of parents' autonomy support.

Additionally, a distinction between mothers and fathers makes it possible to understand

whether both parents affect their child equally, and if not, which parent influences what.

Researchers increasingly emphasise that the majority of parenting research is based on youth

self-report and focuses on the mothers' approach to parenting (e.g., Day & Acock, 2004;

Janssen et al., 2015). Considering the importance of the perception of parenting and the

father's input, it is surprising and problematic that there is comparatively little research

regarding the relevance of the youth's versus parents' perception of parenting, and that a

relatively small amount is known about the nature and effects of paternal parenting (see

Tamis-LeMonda & Cabrera, 2002).

Many studies utilise the youth's perception of parenting because young individuals

become increasingly proficient at describing their own experiences of parenting and related

outcomes (Robilia & Krishnakumar, 2006). By adolescence, measuring only the youth's

perception of parenting is more practical than also collecting the parents' perception (e.g.,

Cheng, Pomerantz, Wang, & Qu, 2016). When measuring youth's perception of parenting

however, it is not the objective quality, but the meaningful functioning that establishes

parenting as autonomy supportive or psychologically controlling (Pelletier & Vallerand,

1996). A young individual's perception may differ substantially from how the parent, or even

an observer, would perceive the parenting style. For example, research has demonstrated that

students from the same classroom can differ in their reports on the degree of autonomy

support that a teacher provides (Ryan & Grolnick, 1986). Youth may differ in emotional

states and temperament, and so may respond differently to the same parenting behaviour.

Moreover, perceptions of relationships may have more of an effect than the actual state of a

relationship (Brendgen, Warner, Morin, & Vitaro, 2005).

Youth perception of parenting may be a more advantageous approach when predicting

developmental outcomes. However, to draw practical and theoretical implications from

research, it is essential to know what sort of parenting mothers and fathers believe they are

providing, and whether parents' and youth's perceptions even measure the same construct.

Research compares how parent and youth perceptions of both maternal and paternal parenting

affect outcomes such as well- and ill-being. Ensuring that such varying approaches to

measure parenting actually measure the same construct is a critical, yet frequently overlooked

assumption. The assumed equivalence is further an issue when comparing conclusions drawn

from studies that use different approaches to measure parenting. The current thesis includes

studies that will tackle these issues.

Mother versus father. A similar measurement issue is found for the distinction

between maternal and paternal parenting. Despite the fact that it is starting to become

increasingly common for studies to include reports from both mothers and fathers (e.g., Bean

& Northrup, 2009; Costa, Soenens, Gugliandola, Cuzzocrea, & Lac, 2015; Prout, 2015; van

der Bruggen, Stams, Bögels, & Paulussen-Hoogeboom, 2010), this only comprises a handful

of research. Many more studies focus on maternal parenting alone (e.g., Manzeske & Stright,

2009). Parents' approaches to parenting are thought to be interdependent (Minuchin, 1985).

Parents with similar beliefs are more likely to start and retain a relationship (Luo & Klohnen,

2005), and parents are also likely to influence each other's approach to parenting. However,

there are studies that do not find interdependence (e.g., Volling & Belsky, 1992) and show

that mothers use more autonomy supportive and controlling strategies than fathers (e.g.,

Barber et al., 2002; Mageau et al., 2015). Whether this difference has implications for predicting outcomes remains an open question.

To be able to draw meaningful conclusions about research and the different approaches to measuring parenting data, it is important to understand measurement equivalence of both report types (i.e., youth perception, parent perception) and report targets (i.e., mothers' and fathers' parenting). In this thesis I do not only try to clarify the issues of the relationship between autonomy supportive and psychologically controlling parenting, but also the issues of varying approaches to the measurement of autonomy supportive and psychologically controlling parenting. Accounting for such distinctions allows for accurate testing of how different approaches to measure parenting may moderate the effects on well- and ill-being. As this is a generally well-established effect of autonomy support and psychological control, the effects should be better understood in developmental contexts like education.

Effects of Autonomy Support and the Educational Context

Autonomy support and well-being. As discussed in Chapter 2, autonomy support affects many outcomes including autonomous study motivation (Soenens & Vansteenkiste, 2005) and positive child adjustment (Guay, Senécal, Gauthier, & Fernet, 2003). According to SDT, autonomy support is a basic form of psychological nurturance that facilitates well-being (Ryan & Deci, 2017). Research shows that autonomy support relates to decreases in emotional suppression and increases in psychological maturity, which in turn predict decreased depressive symptoms and increases in self-esteem respectively (Brenning, Soenens, van Petegem, Vansteenkiste, 2015). Longitudinal studies from early to late adolescence have shown a relationship between perceived parental autonomy support and depressive symptoms regardless of gender (e.g., van der Giessen, Branje, & Meeus, 2014).

An adolescents' autonomy helps to encourage the self in interpersonal contexts. It is thus important to examine the perception of autonomy support in close relationships.

There are many studies that have found parental autonomy support promotes early adolescent psychological well-being related outcomes such as higher self-esteem, higher life satisfaction, and lower depressive symptoms (Chirkov & Ryan, 2001). For example, it has been found that a decrease in depressive symptoms and increase in self-esteem was experienced one year after maternal autonomy support was reported (Brenning et al., 2015; Soenens et al., 2007). Having parents who are confident in their child's ability to make autonomous decisions is a protective factor against depressive symptoms (Morgan-Lopez & Patock-Peckham, 2009). Perceptions of autonomy are consistently associated with lower depressive symptoms across adolescence and cultures (Chirkov & Ryan, 2001; Manzi et al., 2012).

In fact, it has been shown that daily fluctuations in autonomy support and psychological control relate to daily fluctuations of the child's well-being (Aunola et al., 2013; van der Kaap-Deeder, Vansteenkiste, Soenens, & Mabbe, 2016). People are able to engage in personally valuable and interesting behaviours when they experience a sense of choice. This, in turn, satisfies their psychological need for autonomy, which leads to well-being, vitality, and personal growth (Ryan & Deci, 2017). Such findings emerge in many domains such as education (e.g., Ryan & Stiller, 1991), parenting (e.g., Grolnick, 2003), and work (Ilardi et al., 1993). As children grow they experience a multitude of developmental changes and challenges, such as increasing demands at school, social changes, development of cognitive skills, and career choices. Satisfaction of autonomy plays a critical role in how children cope with such changes (e.g., Véronneau, Koestner, & Abela, 2005). According to SDT, social context and developmental environments should be a

primary focus when examining whether and how autonomy is potentially being supported or thwarted (Ryan & Deci, 2017).

The link between autonomy support and well-being is consistently found in a variety of life settings, ranging from childhood to late in life. In a nursing home, Kasser and Ryan (1999) have found that autonomy support from relatives, friends, and nursing home staff was correlated with positive psychological outcomes, and even to mortality at a one-year follow-up. These positive psychological outcomes included lower depressive symptoms, increased life satisfaction, and increased vitality.

Such positive effects are also found in academic settings where autonomy support from parents, teachers, and even school administrators has been shown to lead to academic autonomy (Vallerand, Fortier, & Guay, 1997). Autonomy satisfaction results in academic motivation that is self-determined, and has been shown to be negatively related to drop-out intentions. Moreover, autonomy support has been shown to affect transition from middle- to high school (Lord, Eccles, & McCarthy, 1994) through association with increased self-esteem and positive adjustment after the transition. Well-being is often negatively affected by transition (Eccles et al., 1993). General well-being after the transition is therefore an important indicator of a successful transition (Eccles & Midgley, 1989) and will thus be the outcome that is focused on in this thesis. The importance of autonomy support from parents in youth's educational transitions is an example of a broader ecological perspective on the role families have on their children's development. Since sociologists suggest contexts should be taken into account when exploring child socialisation (e.g., Bronfenbrenner & Morris, 2006; see also Sameroff, 2010) this thesis will test the effects of autonomy supportive parenting across several educational transitions.

Educational transitions and parenting. Educational transitions are periods during youth where many developmental tasks coincide and are therefore navigated by both youth

and their parents (Dietrich & Salmela-Aro, 2013; Salmela-Aro, 2009). Such a period of heightened collaboration makes educational transitions a prime context to test the effects of autonomy supportive parenting. Attainment goals for such transitions – education goals which adolescents set and work towards – are often shared with parents (Salmela-Aro, 2009). Supportive ties can help to successfully negotiate and attain them. One of the more effective types of parenting to provide a supportive environment for career development and transition is autonomy supportive parenting (Ryan & Deci, 2017).

Educational transitions (e.g., high school transition and post high school transition) require negotiations of individual motivation, the opportunities, and constraints on these opportunities that are typical for the transition at hand. According to models of development in motivation (e.g., Heckhausen, Wrosch, & Schulz, 2010), pursuit of educational and occupation goals reflect phase adequate engagement (i.e., adaptive identity- and goal-related behaviour appropriate for one's developmental stage), which benefits successful transition (Dietrich, Parker, Salmela-Aro, 2012). Educational transitions are often associated with negative effects on students such as increased stress, reduced effort, loss of perceived competence, and a decrease in self-esteem (Larose & Boivin, 1997; Roeser, Eccles, & Freedman-Doan, 1999; Rudolph, Lambert, Clark, & Kurlakowsky, 2001). Difficulties in early adolescence with the transition into high school seem especially adverse as it can set some students on a downward track of low academic motivation and achievement through to the end of high school (Eccles, Midgley et al., 1993). Alternatively, a successful transition can provide a critical platform for lifelong attainment, improvements in relationships, and increased well-being (Dietrich et al., 2012; Parker et al., 2012). An important characteristic of a successful transition is general well-being. During a successful transition, feelings of distress give way to a sense of well-being which may lead to higher motivation and better

goal outcomes (Eccles & Midgley, 1989). On the other hand, disruption of well-being may be a roadblock to the developmental tasks at hand.

How youth deal with the transitional changes depends on intrapsychic factors, their social network, and wider conditions that are shaped by structural constraints (e.g., societal, cultural, and institutional conditions). Phase adequate engagement is about how people engage in the transition. This is generally done through goal setting and engagement, identity negotiation, and co-regulation (Dietrich et al., 2012). This thesis focuses on the co-regulation aspect of phase adequate engagement. Co-regulation refers to the idea that transitions represent joint projects between youth and their significant other. The success of these joint projects has implications for other aspects of phase adequate engagement such as vocational behaviour, identity processes, and processes of goal attainment (i.e., goal setting, striving, and disengagement; Salmela-Aro, 2009). Consequently, transition success is not only affected by personal capacities, but also by support from the social context.

The focus on transitions is important as they represent societal imposed points at a particular developmental stage that all youth must navigate. Thus, they a) form natural experiments as youth diverge across different developmental pathways, b) are psychologically critical where young people are often faced with new challenges and a host of developmental tasks they must address, and c) often represent large scale upheavals in social networks via new or renegotiated relationships with parents and friends (Dietrich et al., 2012). Although this period has received much attention by researchers as a period of potential distress, less research has focused on a sequence of transitions including the transition from middle to after high school, as such data is often difficult to obtain. In phase adequate engagement most focus has been on the post high school transition. This is where adolescents face both the largest number and most wide-ranging set of important

developmental tasks (Zarrett & Eccles, 2006). In this thesis I will explore the middle school, high school, and post-high school transition.

In line with co-regulation (Salmela-Aro, 2009), past research shows that adolescents see their parents as highly influential during transitional periods (Mortimer, Zimmer, Gembeck, Holmes, & Shanahan, 2002; Tynkkynen, Nurmi, & Salmela-Aro, 2010), which shows parents' importance in choosing a vocation. Parental warmth, involvement, and support may be seen as a resource which eases the strain of career development, reflected by higher effort, and lower levels of goal related stress, resulting in higher likelihood of transition goal attainability (i.e., successful transition; Salmela-Aro & Little, 2007). Indeed, lack of career task engagement or involvement that is shared between parents and adolescents might lead to the career goal being externally motivated. When parents do not involve themselves with the career task, adolescents may attribute their career goal to external social pressures, such as the pressure to have a career goal by the end of high school. External pressures can lower effort and increase stress towards a student's career goal, possibly resulting in an inability to attain their career goal (Dietrich & Salmela-Aro, 2013). This thesis will test solutions to issues in parenting research in the important context of educational transition. As this is a critical time period for adolescents, it makes for an excellent natural context to test for issues in parenting research.

Stage-environment fit theory. Here I will utilise the stage-environment fit theory to provide an explanation of why contexts are relevant in research on child development (Bronfenbrenner, 1959; Bronfenbrenner & Morris, 2006; Sameroff, 2010). Stage-environment fit theory is specifically applicable to the educational transition context used in this thesis. Environments where psychological needs are neglected or frustrated promote psychological distress (Ryan, 1995). Stage-environment fit theory provides an optimal framework to examine the multitude of both adaptive and maladaptive influences on

adolescent development through SDT's ideas about support, specifically the influence of the parent-child relationships, school systems, and puberty (Eccles & Midgley, 1989).

Stage-environment fit theory is based on the idea of person environment fit theory. Person environmental fit theory states that fit between the characteristics of a person and their social environments affect the behaviour, motivation, and mental health of an individual (Eccles & Midgley, 1989). When the social environment does not fit the psychological needs of an individual, the individual will not function well (e.g., decline in motivation, performance, and positive behaviour; Hunt, 1975; Lewin, 1935). Stage-environment fit theory mostly focuses on the mismatch of opportunities for autonomy and control and their perceptions of an opportunity to satisfy such needs (i.e., an autonomy supportive environment; Gutman & Eccles, 2007).

It is essential to note however, that stage-environment fit's idea of changing individual needs does not align with SDT. The need for SDT's three psychological needs is constant across development (Ryan & Deci, 2017). Reported changes in autonomy to support stage-environment fit theory are likely changes in a construct where autonomy and independence are conflated (as discussed in Chapter 2; see Soenens et al., 2007). Changes in reported autonomy support are also not indicators of changing needs but of changing perceptions or changes to the autonomy provider (i.e., changes in the environment leading to a lack of environmental fit). Regardless, borrowing from stage-environment fit, I claim that the idea that different environmental conditions may be needed to help meet those psychological needs is consistent with SDT and helps direct attention toward environmental affordances and constraints.

Fit with the educational environment is often a topic of discussion because it is a central component of childhood and adolescence (e.g., Eccles et al., 1993). Developmentally appropriate educational environments for early adolescence are often not provided by schools

(see Eccles, 2004). The educational environment should be different as children age to effectively meet developmental needs and to foster optimal growth. However, not all changes to educational environments are appropriate, in fact, some may be developmental regressive. High school transition is a good example of a developmentally regressive change. This transition consists of two trajectories, one of personal development, and one of environment development. High school is a less individualistic environment, as they are much bigger schools than middle school, and teachers teach several groups (Eccles, 2004). This individualism makes it difficult for students to form any close relationships with education-related adults in a time where support from individuals outside the home-environment is beneficial (see Simmons & Blyth, 1987). Such settings further encourage an increased reliance on authoritarian control practices by teachers, and overall, make it less likely to notice any student's individual difficulty (e.g., personal development).

Perceptions of autonomy provided in classrooms have indeed been found to decline over the high school transition (Midgley & Feldlaufer, 1987). This, in turn, is associated with declines in motivation and detachment from educational goals (Eccles, 2004). The familial context then becomes an increasingly important source of satisfaction of the autonomy need. It is then increasingly problematic if adolescents also experience a mismatch between opportunities for autonomy provided by their parents and their own need for autonomy (Eccles et al., 1993).

Autonomy support from parents in the pursuit of a career goal can strengthen adolescents' expectations of success (Eccles, 2009), and so carrying out these goals together is likely to lead to higher effort, lower stress, and greater general well-being (Dietrich et al., 2012; Eccles et al., 1993). Well-being is a good indicator of a successful transition because transitions often lead to an increase in stress and reduced well-being (e.g., Eccles et al., 1993). Educational transitions provide an excellent natural experiment to test how change in a

parent's support affects changes in well-being (Bronfenbrenner, 1979; Dietrich et al., 2012; Eccles & Midgley, 1989). As such, this thesis will utilise educational transitions as context to test solutions to issues in parenting research, and expand knowledge of parenting effects on youth development.

Autonomy Support and Development

As established, this thesis will test parenting in a specific context as advised by Bronfenbrenner (1959). However, there is one more recent concern of Bronfenbrenner that will be addressed in this thesis that was discussed in Chapter 2 as one of the four defining properties of human development, namely, the property of time. Bronfenbrenner's more recent critique on developmental research is that although modern research now takes context of the natural environment of parenting into account (e.g., here, educational transitions), most research does not take into account the development of the participants, specifically in combination with context (Bronfenbrenner & Morris, 2006). As discussed in Chapter 2, relationships with parents are organised around socialisation tasks. But as relevance of the socialisation tasks change with developmental tasks that youth face, as explained with stage-environment fit theory, socialisation approaches have to change too (e.g., see Laursen & Bukowski, 1997). Thus, a model that takes the parent-child relationship into account should be a developmental model. A developmental model should be sensitive to a person's abilities and the way in which their needs are satisfied, how these change with age and development (Becker, 1964; Maccoby, 1980; Ryan & Deci, 2017). These aspects however, have often been overlooked in research on effects of parenting (see Laursen & Bukowski, 1997). It is for these reasons that this thesis will place such a strong emphasis on development.

When young individuals become older and mature, the parents' approach to parenting should adapt. Although it is hard to establish a standard developmental trajectory for everyone, there are basic changes in human development that are consistent across cultures

(see Benedict, 1949). An example of such change during adolescence is the changing ways in which parents are to satisfy the adolescents' autonomy needs (Ryan & Deci, 2017). As discussed with SDT, the need for autonomy does not change, but the way in which this may be supported does change (Ryan & Deci, 2017). This change does not indicate a need for independence, but more of a shift in the way autonomy may be supported in an age appropriate manner (e.g., involvement in more consequential decision making and a more mature evaluation and consideration of one's opinion and values).

Most researchers assume that parents emphasise autonomy more, but exert less control as a child grows up (e.g., Baldwin, 1946; Eccles et al., 1993; Maccoby, 1980). There are only a handful of studies that show a change in general parenting across youth's development, and what is found differs per study. Studies on changes in autonomy support specifically are even less common. Some studies find that parenting stays stable over an eight year period from childhood into mid-adolescence (McNally, Eisenberg, & Harris, 1991), with a slight increase in parental control at mid-adolescence while affection decreases. Other studies find, based on parent self-report, that parents increase permissiveness with age, specifically from mothers (Steinberg, 1987). A greater number of studies shows that parental control relaxes while children age, suggesting that parents are likely to come to terms with the youth's need for autonomy, allowing the child more responsibility for their own life (Ciairano, Kliewer, Bonino, & Bosma, 2007; Loeber et al., 2000; Luyckx et al., 2011; Smetana, 2000; Wang, Dishion et al., 2011). Nevertheless, research has not shown change in autonomy support directly, only an increase in youth's desire for decision making (Wang, Dishion et al., 2011), which may be conflated with independence. Additionally, it is unclear what happens to psychological controlling parenting as children age. There are few studies that directly look at the change in parenting, but much has been theorised.

Adolescence is a critical moment for autonomy need satisfaction (Smetana, 2011; Wray-Lake et al., 2011), therefore making autonomy support essential for a positive development. Although not providing autonomy can lead to maladaptive outcomes, providing autonomy through too much interdependence, too early, can also cause problems (Dishion, Poulin, & Medici Skaggs, 2000) and may also be useless for children that are too young to understand explanations of consequences of potential bad behaviour. It is important to provide autonomy, but this should be in an age appropriate manner for optimal benefits to the child's developmental outcomes (see Ryan & Deci, 2017).

Psychologically controlling parenting is problematic at all ages. It is especially problematic however, if parents turn to psychological control as a reaction to the changes in which youth require their autonomy need to be satisfied. These changes may cause confusion for parents, leading to a misunderstanding or frustration regarding the youth's needs, possibly leading to more controlling parenting practices. In turn, such use of psychological control could lead adolescence to dismiss taking responsibility, non-compliance, or even antisocial aggression (for a review see Baumrind, 1978; Barber, 1996).

It is possible that a change in parenting creates a temporary imbalance in the parent-child relationship, as most parents find it difficult to renegotiate the relationship to age-appropriate autonomy support (Ryan & Deci, 2017). In an optimal situation parents would adjust their autonomy support in age-appropriate ways and avoid psychological control. Conflict with the family often subsides towards late adolescence when there is less difficulty in establishing age appropriate autonomy support from parents (Cicchetti & Rogosch, 2002). By then, adolescents are treated more like adults with increasing interdependence, are more influential in family decisions, and spend more time without pressure from parents (Arnett, 2007; Gong, Paulson, & Wang, 2016).

Processes of individuation and a clear sense of identity are increasingly important at the end of adolescence (Arnett, 2007), as youth move out of the family home and make more pertinent career related decisions. Yet, this period is often still seen as a transition period, as most individuals age 18 to 25 still do not consider themselves as an adult (e.g., Nelson & Barry, 2005), and neither do most parents (e.g., Nelson et al., 2007). This developmental change of parent's provision of autonomy support will not be directly tested in the thesis, but developmental change will be taken into account. Developmental change will be considered by using multiple educational transitions as a natural experimental context, allowing for potential differential effects of autonomy support as youth grow up. Development will further be taken into account when exploring the relationship between autonomy support and psychological control. Since it appears that parents may adjust their parenting across youth's development, it is possible that development moderates the relationship between the two parenting styles, thus potentially explaining the confusion regarding this relationship.

Overarching Research Questions

The central contribution of this thesis is to test: a) the structure of autonomy support as distinct from psychological control, b) the generally untested measurement assumptions about ways in which parenting can be measured (e.g., maternal parenting perceived by youth, or paternal parenting perceived by the father), and c) the relative effect of parenting styles on well- and ill-being while considering context and development. Autonomy supportive parenting is often seen as the polar opposite of psychological control, which has led to measurement of autonomy support as reverse coded psychological control (e.g., Eccles, Early, Fraiser, Belansky, & McCarthy, 1997; Liew, Kwok, Chang, Chang, & Yeh, 2014; Suchman, Rounsaville, DeCoste, & Luthar, 2007). I demonstrate that this approach is contentious (Chapter 5 and 6). Further, when measuring parenting styles little research considers distinctions between measurement report types (e.g., youth, parent, and observer

perception; Chapter 5 and 6) or report targets (e.g., maternal and paternal parenting; Chapter 5, 6, and 7). Most research is based on youth self-report regarding maternal parenting, and is thus at risk of common method bias. When these issues are not considered in the interpretation of research it may lead to incorrect interpretation, and thus incorrect application.

Contextual influences and development have been recognised as important determinants of parenting effects (Bronfenbrenner & Morris, 2006). Despite the recognition, theoretical conceptualisation and empirical research on the actual processes through which parenting affects young individuals, while accounting for context and development, is scarce. Development over the course of childhood and adolescence changes the way in which youth's needs are successfully supported (Ryan & Deci, 2017). Parenting should therefore continuously adjust to an age-appropriate approach to a parenting style. Yet some parents appear not to adjust but fundamentally alter their whole approach to parenting. Such changes make development essential to take into account when doing research on young individuals (Bronfenbrenner & Morris, 2006). It is also important to take context into consideration, as findings about parenting in one context may not be consistent in another (Bronfenbrenner, 1979). In this thesis development will be taken into account in analyses and incorporated in conclusions drawn from the findings (Chapter 5 and 7). The effects of parenting on well- and ill-being with different approaches to measurement of parenting will first be tested (Chapter 6). Afterwards, the effects of autonomy support on well- and ill-being will be tested in the context of multiple educational transitions (Chapter 7). In this chapter, well- and ill-being function as a measure of successful adjustment to new situational affordances and constraints that result from entering a new phase of development. Taking development, context, and different approaches to measure parenting into account addresses many issues and gaps in research while creating more meaningful research with clear applications. The results in this

thesis may have important implications for future research, parenting, and education. The inability of parents to provide autonomy support may provide non-cognitive reasons why some children experience worse outcomes during educational transitions than others.

Specific Research Questions

Although the studies address overlapping issues in research, each study also focuses on specific research questions as follows:

Chapter 5 contains a study titled *A meta-analysis of the link between autonomous and coercive parenting styles amongst children, adolescents, and emerging adulthood: Developmental stage matters* [manuscript in review in *Child Development*]. It examines the relationship between autonomy support and psychological control, and how this relationship may be moderated by developmental stages of the participants and approaches to the measurement of parenting. The effect size and moderation effects were tested with a meta-analysis of research that reported the relationship between autonomy supportive and psychologically controlling parenting from 50 existing studies.

Chapter 6 contains a study titled *Difference in Kind, Degree, or Structure: Parenting Perceptions of Youth, Mothers, and Fathers, and the Relationship with Well-Being* [manuscript in review in *Journal of Personality*]. It examines the structural equality of approaches to the measurement of parenting, including report types (i.e., child and parent perception) and report target (i.e., maternal and paternal parenting) for both autonomy support and psychological control. Measurement invariance was first tested for all the measurement approaches to test whether the same kind of parenting style is measured regardless of the measurement approach used. It was then possible to test for differences in degrees and correlations between each measurement approach both within and between autonomy support and psychological control. Structural invariance was then tested for all the measurement approaches to see whether they moderated the relationship of autonomy

supportive and psychologically controlling parenting with well- and ill-being. This study provided a means of considering fundamental yet often untested assumptions relating to the measurement of autonomy support and psychological control, and tested potential moderating effects of varying approaches to measure parenting on the relationship of parenting styles with well- and ill-being.

The study in Chapter 7 is titled *The link between perceived maternal and paternal autonomy support and adolescent well-being across three major educational transitions* [published in *Developmental Psychology*]. It examines the effects of both maternal and paternal autonomy support on subjective well-being around educational transitions surrounding high school. Three educational transitions surrounding high school (i.e., middle school, high school, and post high school transition) were each utilised in a separate longitudinal study. It was specifically tested to what degree autonomy supportive parenting facilitated positive changes in self-esteem and life satisfaction, and buffered against negative changes in depressive symptoms and school related emotional exhaustion. This study used educational transitions as a natural experiment to determine the degree to which parenting helps youth adjust to new environments. It further considers how youth's pre-transition level of functioning might serve as an impetus for parents to adjust their parenting style in response to educational transitions.

Chapter 4: Methodology and Design

Detailed methodological information is provided within each study chapter. This chapter therefore presents a detailed description of the secondary data that was utilised in this thesis. As Chapter 5 contains a meta-analysis using existing studies, the following description of secondary data applies mostly to Chapters 6 and 7.

Description of Secondary Data

   Finnish Educational Transitions. Chapters 6 and 7 utilise the Finnish Educational Transitions (FinEdu) study. The FinEdu is a seven wave ongoing longitudinal follow-up study of students from a Finnish industrial town. Data collection started in 2004 with a sample of ninth grade students and the study is still ongoing, with the latest available time wave comming from 2013/2014. The FinEdu project is led by Professor Katariina Salmela-Aro, and is a collaborative effort by the University of Jyväskylä and CICERO Learning from the University of Helsinki. The FinEdu research aims to study the educational transitions, the choices people face after compulsory comprehensive education, and factors that influence these choices. The vast majority of the participants are Finnish.

   The FinEdu study emphasises personal goals, motivation, and subjective well-being. This includes variables that help inform methods of promoting resilience and adjustment during times of adversity, family ties and resources that improve socialisation, and social ties that improve motivation towards education and work. Data on the cohorts' motivation, well-being, and family were collected at various ages. Most time waves of data were collected half way through the school year, with exception of data collected in 2004. In 2004 data was collected twice, once in the middle of the school year and once right before the high school transition. Time waves include data before and after both the high school and post high

school transition. More detailed information particularly relevant to the focus of Chapters 6 and 7 can be found in their respective methods sections.

Mind the Gap. In addition to FinEdu data, Chapter 7 also utilised data from the Mind the Gap (MtG) study. The MtG study is an ongoing longitudinal follow-up study (2013-present) of a sample of Finnish adolescents from Helsinki. The project is a collaborative effort of four Finnish research groups by Professor Kirsti Lonka, Professor Kimmo Alho, Professor Kai Hakkarainen, and Professor Katariina Salmela-Aro. The first time wave of data was collected from sixth grade students in 2013 and the latest available wave is from 2016. The aims of the MtG are to examine challenges in development, including the effects of social and cultural context, particularly educational practices. As with FinEdu, the vast majority of participants are Finnish.

The emphasis of MtG lies on learning, well-being, and development of young individuals who have grown up in the digital age. The study specifically looks at the effects of a gap between the personal and the school's use of digital tools, effects of social media, and how schools and teachers may better meet the students' needs. Data on the participants' well-being, motivation, digital use, and economic involvement have been collected at various ages. Data collection has been done annually, and currently includes data on the middle school and high school transition. More detailed information relevant to the particular focus of Chapter 7 can be found in its method section.

Secondary Data Analysis

The studies in this thesis mainly rely on the use of secondary data. The use of secondary data has been of great benefit to the field of developmental psychology (e.g., Elder, 1998). Secondary data analysis can be seen as repurposing of existing data to answer new important questions, often in ways that cannot easily be done with primary data collection. This is either because research costs would be too high or because data needs to be

collected over an extended period (e.g., beyond the time-frame of a particular PhD program). The use of existing data to answer new questions can be defined as a developing science in and of itself (Elder et al., 1993) and is even an aim of major funding bodies (e.g., Commonwealth of Australia, 2011, 2012).

  While there are major benefits to secondary data analysis, there are also drawbacks researchers should be aware of. Secondary data is originally collected with a concrete research question in mind, which is unlikely to align directly with research questions and hypotheses of the secondary data analysis. When using data for one's own questions, a study has to be devised around the appropriateness of the data as much as possible. This often requires the use of considerable creativity, but also patient and deliberate reading of associated documentation and, where possible, discussion with the primary research team. Such creativity and deliberation can overcome many limitations involved with secondary data. Nevertheless, all potential concerns are unlikely to be addressed and thus secondary data analysis often represents a cost-benefit trade-off. There were issues with the design of some aspects of this thesis due to such concession. Issues include the unavailability of identical measures for every educational transition (Chapter 7), the need to construct reliable and valid measures of autonomy support rather than using established measures (Chapters 6 and 7; note that the appendices of Chapter 7 contain extensive psychometric analysis of these measures), and the inability to include some contextually relevant covariates in analyses (Chapters 6 and 7).

  The above limitations must be interpreted in light of the considerable benefits of secondary data analysis. Firstly, by combining multiple existing longitudinal studies, this research was able to cover multiple transitions with measures of parenting styles and well-being (Chapter 7). It was further possible to leverage off unique aspects of these databases and compare and contrast young individual's perception against their parents' perceptions of

autonomy support and psychological control (Chapter 6). Additionally, the archival data used

included both the mother's and father's perception of parenting (Chapters 6 and 7). The use

of secondary data made it possible to utilise the context of educational transitions as natural

experiments in a manner that would not have been possible otherwise (Bronfenbrenner,

1979). As the databases comprised of, and thus most studies in this thesis used, samples from

Finland, the following section will provide an extended overview of the Finnish context.

The Finnish Context

Society shapes ways in which proximal developmental contexts are structured.

Because mainly Finnish samples have been used to explore the questions in this thesis it is

important to briefly look at the Finnish context. Finland's society and culture is based on

egalitarian values and quality public services with an egalitarian distribution of wealth

(Ahtola, Poikonen, Kontoniemi, Niemi, & Nurmi, 2012). Basic early education and

healthcare is free and regulated locally. The success of Finland's Programme for International

Student Assessment (PISA) tests gave the Finnish education system international recognition,

with Finnish adolescents being among the top rated in many categories with little variance

between schools (e.g., OECD, 2004, 2010).

Finland generally has high levels of protection and regulation aimed at protecting

workers, families, and people with a low income (see Solantaus, Leinonen, & Punamäki,

2004). The welfare system is central to the Finnish economic development plan, making

educational and career decisions for Finnish youth low-risk. Finland is culturally

homogeneous, though this is slowly changing. In 2013 Finland saw a record number of

immigrants as recorded by Statistics Finland (OECD, 2013). The capital of Finland, Helsinki,

is home to a more diverse population than the rest of the country (OECD, 2013).

Finland has a powerful social security system set up with a strong unemployment

program and a system that helps families with an income below a certain level (Solantaus et

al., 2004). This system is sufficiently robust to avoid an increase in the number of families who lived below the poverty line during Finland's recession around 1990 (Heikkila & Uusitalo, 1997). The Finnish social security system allows Finland to have one of the smallest gaps in the world between the rich and poor (Steward, 1999). The modal Finnish family is a nuclear family with two parents and two children (Solantaus et al., 2004). In the majority of Finnish families both the mother and father earn a full income, though unemployment benefits are also generous. The available benefits to Finnish children and families mean that unemployment may not bring the same pressure onto the family compared to countries with a less robust social welfare system. Such benefits make it less likely for family pressures to affect the child (Solantaus et al., 2004).

In addition to the general social security, there are also family policies that further help provide a healthy environment for a child to develop. Because most families are dual-earning there is not only a mandatory paid maternity leave period, but also a shared period between mothers and fathers for paid parental leave (Solantaus et al., 2004). All parents of children under school age have the legal rights to a place in day-care or even child-care allowance for private care at home (OECD, 2000). Such support from the government makes it possible for parents to provide optimal child care without financial or time pressures affecting the way in which parents decide to socialise their children. The benefits and egalitarian approach in Finland help to provide a good baseline environment to test issues with parenting research.

General education information. Finland's egalitarian approach is also evident in its educational system. Since this thesis utilises the educational context to test parenting research I will now discuss the Finnish educational context in more detail. Education is free up to higher education and includes free meals, transport, and textbooks (Finnish National Board of Education, 2012). The Finnish education system is developed close in line with its economic

and social structure. Finland has developed itself as a mainly information-based economy, and so education has a high priority (Sahlberg, 2006). As such, teachers are respected and being a teacher is seen as a prestigious position. Most teachers have a Master's degree and are also seen as researchers with constant developing pedagogical knowledge (Sahlberg, 2006). The accountability of teachers is high and a lot of trust is put into them, which is made clear with the lack of national tests and school inspections. Teachers also have the autonomy to make general adjustments to the curriculum where they see fit (Finnish National Board of Education, 2012).

The Finnish policy is to provide equal opportunities in education for everyone. This inclusion means that even individuals with special educational needs receive free support from a student welfare team available in every school (Finnish National Board of Education, 2012). Such a service includes any additional tutoring when required. The curriculum takes the students' needs into account by viewing students as active participants in the organisation of the curriculum (Finnish National Board of Education, 2012). There are no rigid guidelines and it is flexible for the teacher to adapt to the students' needs. Since Finland's environment generally aims to provide students with autonomy where possible, any tests regarding the influence of parents provides optimal influence of parenting in an environment where the autonomy need is also likely to be met through other sources.

School trajectories. The school system in Finland is slightly different from other countries. Preschool education, as in many countries, is often organised either in day care or elementary schools (see Ahtola et al., 2012). After preschool, Finnish students go to comprehensive school, which consists of nine years of education that is compulsory to all students (OECD, 2013). During these nine years, usually starting around the age of seven, there is no vocational tracking for students.

Even though comprehensive school is considered as a single school, it can be thought of as two parts with similar differences as the more universally known primary and middle school. During the first six years of comprehensive school, students are taught by one teacher for most subjects (OECD, 2013). After these six years, there is a small educational transition to the last three years of comprehensive school, whereafter students get taught by specialist teachers for each subject instead of a single class teacher. This relatively small transition will be referred to as the middle school transition in this thesis. After comprehensive school students either move to higher secondary school (i.e., academic track) or vocational school (i.e., vocational track; OECD, 2013), which will be referred to as high school transition in this thesis. Entrance to higher secondary school is based on a GPA requirement. If this requirement is not met it is possible to take a tenth voluntary year in addition the nine compulsory comprehensive school years, to be able to enter higher secondary education (OECD, 2013). Around 95% of students immediately continue any of those three options (Sahlberg, 2006). A bit more than half of these students continue on the academic track, and around 40% continue on the vocational track (OECD, 2013). Higher secondary school is designed to be completed in three years, but it can be completed in two to four years. During this time, students base their subjects on their career path. Higher secondary school ends with a matriculation exam, after which students can choose to continue at either university or vocational school (OECD, 2013). After the vocational school, which may last two to three years, students can choose to either work or continue higher vocational studies. In this thesis these transitions will be referred to as the post high school transition.

It is likely that students' goal striving increases towards the end of comprehensive schooling because that is when vocational tracking starts, and adolescents' final grades play a role in choices for further education (Vasalampi, Salmela-Aro, & Nurmi, 2010). The extrinsic motivation that naturally follows is likely to increase stress more around the high school

transition in comparison to stress experienced around the middle school transition

(Malmberg, 1996). However, during comprehensive schooling students have help such as

counselling and career guidance available to prepare themselves for the high school transition

(Sahlberg, 2006). This support is not available after the high school transition, which may be

a reason that Salmela-Aro, Kiuri, and Nurmi (2008) found higher levels of school related

burnout after the high school transition than in comprehensive school. In Finland, the usually

stressful educational transitions may be more manageable compared to other countries

because of the Finnish policies that revolve around equity, the help for students and their

families, and the educational quality.

Chapter 5: Study 1 – Meta-analysis

A Meta-Analysis of the Link between Autonomous and Controlling Parenting Styles amongst Children, Adolescents, and Emerging Adults: Developmental Stage Matters

A Meta-Analysis of the Link between Autonomous and Controlling Parenting Styles amongst

Children, Adolescents, and Emerging Adults: Developmental Stage Matters

Self-determination theory (SDT) predicts that people will experience positive

functioning and well-being when the social context supports their basic psychological needs

of autonomy, competence, and relatedness (Deci & Ryan, 1985, 2000; Ryan & Deci, 2017).

Parents make up the first and perhaps longest lasting interpersonal context. According to

SDT, parents facilitate psychological needs to the extent that they provide an autonomy

supportive environment, and hinder such needs to the extent they provide a controlling or

coercive environment (Reeve, Deci, & Ryan, 2004). Even as children get older and become

increasingly influenced by peers, parents remain an important influence for a range of

outcomes (see Chapter 7; Parker, Lüdtke, Trautwein, & Roberts, 2012).

A great deal of research has sought to assess the effects of parental autonomy support

and control on youth development (e.g., Barber, 1996; Brenning et al., 2015; Grolnick, 2003;

Grolnick & Ryan, 1989; Joussemet, Landry, & Koestner, 2008). While there has been much

progress, there remain a number of issues surrounding the study of autonomy supportive and

psychologically controlling parenting. Much theorising seems to imply that autonomy

support and psychological control are opposite poles on a single continuum (see Schaefer,

1965). However, research on this topic appears inconsistent, with some research treating

autonomy support and psychological control as a parenting continuum (e.g., Reitman &

Asseff, 2010), and other research treating the two parenting approaches as separate

dimensions (e.g., Barber, Bean, & Erickson, 2002).

It is important for theory and practice to determine whether autonomy supportive and

psychologically controlling parenting are different ends of a single continuum or two separate

dimensions (see Silk, Morris, Kanaya, & Steinberg, 2003). Misunderstanding of the

relationship between autonomy support and psychological control can lead to incorrect conclusions about parenting (e.g., Henry, Stiles, Biran, & Hinkle, 2008; Reitman & Asseff, 2010) and false assumptions regarding parenting interventions (e.g., a continuum would indicate that an increase in autonomy support also directly reduces psychological control strategies, and vice versa). Incorrect assumptions can also cause researchers to fail to explore the unique ways in which autonomy and psychological control may combine and interact. This paper conducts a meta-analysis on how autonomy supportive and psychological controlling parenting styles are related, and how this relationship may be moderated by development, by who is reporting on the parental context (i.e., youth, parents, or an observer), and by the target of reporting (i.e., the mother or father).

Autonomy Support

Autonomy supportive parenting refers to support that encourages children to be self-regulating and autonomous (e.g., Grolnick & Ryan, 2003). Autonomy support includes the acknowledging and valuing of the child's feelings, taking the child's perspective (e.g., homework can be boring), providing meaningful choices (e.g., do you want to do your homework now or after dinner?), and presenting a valid rationale for any limitations or requirements (e.g., doing homework is required to be able to keep up with class; Koestner, Ryan, Bernieri, & Holt, 1984; Grolnick, 2003; Grolnick & Ryan, 2003; Reeve & Jang, 2006). Autonomy support further includes providing opportunities for the child to actively participate in decision making or problem solving and a non-judgemental approach to the child (i.e., being informational as opposed to evaluative; Grolnick & Pomerantz, 2009).

Views of how autonomy support should be understood diverge among developmental psychologists (e.g., Goossens, 2006; Hmel & Pincus, 2002). Some view parental autonomy support as the promotion of independence (Gray & Steinberg, 1999; Silk et al., 2003), while within SDT (Deci & Ryan, 2017) parental autonomy support is conceptualised as the

encouragement of adolescents' pursuit of their true personal interests and values (i.e., promotion of volitional functioning). Whereas independence is concerned with not relying on others, SDT's focus on autonomy is about relative volition and authenticity of a person's actions (Soenens et al., 2007). I take this latter view. Thus, in this chapter, parental autonomy support is defined as characteristics of parents who are empathetic to their children's perspective, who provide choices and opinions to their children whenever it is possible, and help their children to explore and act on their own personal values and interests (i.e., support for volitional functioning; Grolnick, 2002; Ryan et al., 1995). Accordingly, children with autonomy supportive parents tend to be more volitionally reliant on parents for guidance or support (Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005; Soenens & Vansteenkiste, 2005). Autonomy support thus creates a method for parents to be actively involved in the socialisation process, helping their child express their own preferences and cultivate their own views and goals (Grolnick & Apostoleris, 2002).

Autonomy supportive parenting has been linked to positive outcomes at different development stages. These positive outcomes include more secure attachment styles in early childhood (Whipple, Bernier, & Mageau, 2011) and an increase in social and academic adjustment in school-age children (Grolnick & Ryan, 1989; Joussemet et al., 2008). Autonomy support is also generally related to higher well-being (see Chapter 7; Vansteenkiste, Zhou, Lens, & Soenens, 2005) and lower health-risk behaviour in adolescence (Williams, Cox, Hedberg, & Deci, 2000). Lack of autonomy support from parents contributes to anxiety in school-age children (Siqueland, Kendall, & Steinberg, 1996), and problematic attachment styles during school-age and early adolescence (for a review see Joussemet et al., 2008; Karavasilis, Doyle, & Markienicz, 2003).

Psychological Control

Psychological control involves the parent's attempt to manipulate their child's emotion, feelings, and thoughts, and is experienced by the child as intrusive (Barber, 1996). This parenting approach undermines the child's basic need for autonomy, competence, and relatedness (see Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010). In fact, aspects of psychological control, such as conditional regard, may even pit a child's needs for autonomy and relatedness against each other (Ryan & Deci, 2017). Psychological control includes instilling anxiety (e.g., if you do not do your homework you will fail school), guilt induction and shaming (e.g., your low grades make us look bad), and love withdrawal (e.g., we will not talk to you until you finish your homework; Barber, 1996; Schaefer, 1965; Soenens & Vansteenkiste, 2010). Psychological control targets internal states (Soenens & Vansteenkiste, 2010) and should not be confused with any external type of control such as physically hurting the child or behavioural control[1]. Psychological control creates an environment in which acceptance of the child is contingent on their behaviour (Barber, 1996).

Psychological controlling parenting is specifically and consistently related to various adjustment problems in adolescence such as a difficulty with the development of a secure sense of self, self-regulation issues, and antisocial behaviour (Barber & Harmon, 2002; Conger, Conger, & Scaramella, 1997; Soenens & Vansteenkiste, 2010). Psychological control has mainly been used as a predictor of outcomes during adolescence, showing a pervasive negative influence on adolescent development (Barber, Bean, & Erickson, 2002) such as development of a negative identity (Barber & Harmon, 2002), social withdrawal (Baumrind, 1967), and internalising problems (Barber, 1996). Regardless of the focus on adolescence, psychological control has also been shown to predict childhood anxiety (Wood,

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[1] Behavioural control is defined as parental monitoring and limit setting. As opposed to psychological control, a lack of behavioural control may actually have adverse effects on the child (Marbell & Grolnick, 2013). Behavioural control provides children with a regulating structure which helps socialisation and development of self-regulatory strategies (Barber, Stolz, & Olsen, 2005). Given that behavioural control is qualitatively different from psychological control, the latter is the focus.

McLeod, Sigman, & Hwang, 2003), general negative emotions (Aunola et al., 2013), and lowered well-being in school-age children (Barber, 1996).

Continuum versus Dimensionality

Autonomy support supports self-regulation and volition in a child, whereas psychological control is expected to thwart a child's autonomy. Psychological control is generally related to reduced autonomous motivation (Barber, 1996), and is therefore often seen as the polar opposite of autonomy support. Whether these parenting constructs are viewed as opposite sides of a single continuum or as two parenting dimensions without clear opposing poles often depends on the approach a researcher takes. Recent research however, shows more criticism towards autonomy support and psychological control as a continuum (e.g., Barber & Harmon, 2002; Silk et al., 2003; Soenens, Vansteenkiste, & Sierens, 2009).

Schaefer (1965) was the first to explicitly work with the psychological control construct. He developed a number of scales based on a large scale factor analysis, one of which was labelled psychological control versus autonomy support. Despite what the scale name implies, the scale only measures the presence versus absence of psychological control. The way autonomy was measured was with items that negatively loaded on psychological control, not items that load positively on autonomy support. This led some researchers to the implicit assumption that autonomy support equals the absence of psychological control, which has resulted in use of reversed psychological control scales to measure autonomy support, or reverse coding of other parenting control items to create a measure of autonomy support (e.g., Eccles, Early, Fraiser, Belansky, & McCarthy, 1997; Liew, Kwok, Chang, Chang, & Yeh, 2014; Suchman, Rounsaville, DeCoste, & Luthar, 2007). The assumption of an autonomy-control continuum may have led to inaccurate conclusions if autonomy support and psychological control are actually separate constructs, and any outcomes unique to

autonomy support may have been missed. Perhaps autonomy support and psychological

controlling parenting have distinct causes and consequences.

The Dimensionality Argument

As opposed to the "single continuum" approach, there has been an increase in the

tendency to treat autonomy support and psychological control as distinct parenting

dimensions (e.g., Meuwissen & Carlson, 2015; Reilley, Stey, & Lapsey, 2016). Psychological

control mainly impacts a child's emotional functioning, compared to autonomy support,

which shows to benefit both emotional and academic functioning (Wang, Pomerantz, &

Chen, 2007). Research by Barber and Harmon (2002) found that both parenting dimensions

influence development of self-competence in adolescents, but development of self-identity

was more affected by psychological control than the absence of autonomy support. There is a

clear overlap, yet there appear to be distinctions between outcomes of these parenting styles.

Despite such findings, some recent research on these dimensions still adopt Schaefer's (1965)

approach, utilising a combination of the two parenting styles and using a reverse scored

measure of psychological control to measure autonomy support (e.g., Liew et al., 2014;

Reitman & Asseff, 2010; Thirlwall & Creswell, 2010).

Theoretically, it is possible for parents to both support autonomy and be

psychologically controlling (Barber et al., 2002; Silk et al., 2003). Parents can, for example,

provide a rationale for requests but also induce guilt (e.g., saying that doing homework is

important to keep up with class, but when the child comes home with low grades say that

they make the family look bad). Likewise, parents who do not provide autonomy may not

necessarily be psychologically controlling or vice-versa (Barber et al., 2002; Silk et al.,

2003). Clearly, in a single instance, it is hard to imagine that a parent could be both autonomy

supportive and psychological controlling. However, most parenting measures are not

designed to be momentary assessments but rather to garner assessments of parenting over an

extended period or a generalised assessment where parental inconsistencies across time and context provide greater scope for a mix of parenting approaches to become apparent.

Another reason that psychological control and autonomy support may be distinct is that psychological control focuses on a single facet of parental control, rather than controlling styles more generally (Ryan & Deci, 2017). Psychological control focuses on manipulation, rather than the use of external rewards (Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). In contrast, autonomy support includes a more complex set of behaviours such as encouraging perspective taking, acknowledging feelings, and providing meaningful choices (Black & Deci, 2000; Grolnick & Ryan, 1989). These findings are consistent with studies that explore the relationship between autonomy support and psychological control, which often show that the relationship is too low to support a unitary dimension of parenting (e.g., Mih, 2013, Rueth et al., 2017).

Even though most studies that report a correlation between autonomy support and psychological control do indeed show that the correlation is not high enough to imply a single dimension, there appears to be significant variation across studies (e.g., Luyckx et al., 2007; Rueth et al., 2017). Not only does there appear to be variation across studies, but also within studies. For example, Skinner, Johnson, and Snyder (2005) who formally tested the distinction between autonomy supportive and controlling parenting found varying correlations between different approaches to measuring the parenting styles. In this meta-analysis I compile all correlation coefficients of autonomy supportive and psychological controlling parenting that I could find in the literature to evaluate the extent that these parenting constructs are better represented as two separate dimensions than opposite ends of a single continuum. It is therefore hypothesised that autonomy support and psychological control are related but distinct parenting approaches, with a moderate negative relationship, but not a large negative correlation (i.e., one that approaches negative one). As there appears

to be considerable variance in the size of the correlation between studies I will explore some issues in parenting research that may act as moderators.

Issues in Parenting Research

The relationship between autonomy support and psychological control dimensions may be context dependent. For example, it is possible that parents may use psychological control (e.g., guilt induction) as a disciplinary strategy when their children are young, more so than when they reach emerging adulthood. An understanding of what moderates the relationship between autonomy support and psychological control may help explain why in some cases the two parenting styles appear to be opposite sides of a continuum, while appearing as separate dimensions in other cases.

Developmental stages. The developmental stage of participants is a recurring factor in parenting research that is not often taken into account when validating parenting scales (see Bronfenbrenner & Morris, 2006). Older research on autonomy support and psychological control focuses more on adolescents, not younger children (Barber et al., 2002). The main reasons are that a) adolescents are assumed to be more able than children to report their own perspective on parenting (Robila & Krishnakumar, 2006) and b) adolescence is most characterised by identity formation, independence, individuation from family, and other developmental issues. The latter reason makes adolescence the prime stage of a child's development to measure parenting (Barber & Harmon, 2002; Silk et al., 2003), regardless of the ongoing effects of early childhood parenting (Fraley, Roisman, & Haltigan, 2013).

Although a child's need for autonomy does not change with development, children that reach adolescence often prefer more responsibility and have the need to create and express their own opinions (Conger et al., 1997). Parents are best to adjust the degree of their parenting style accordingly (see Eccles et al., 1993) and autonomy support requires responsiveness to the different needs of children at different ages. A short increase in family

conflict during adolescence is often related to issues with autonomy and control (Smetana, Campione-Barr, & Daddis, 2004). This conflict usually subsides by late adolescence, and parents become more responsive to youth's autonomy needs (e.g., parents become more open to youth's influence in family decisions; Arnett, 2007). Thus, parents generally need to stay responsive to account for the child's needs throughout development and keep providing autonomy support accordingly (Ryan & Deci, 2017). When the way in which youth's needs are satisfied changes or develops, it is also possible that parents change their parenting style, consequently affecting the relationship between parental autonomy support and psychological control.

There are only a few studies that tackle the topic of age differences in psychological control (e.g., Boyes & Allen, 1993; Shulman, Collins, & Dital, 1993). Although these studies all propose that adolescents experience more psychological control than younger children, these studies do not provide conclusive support for developmental changes in psychological control nor for any changes in the relationship with autonomy support (Barber et al., 2002). Following the research that is available, it is plausible that the degree of psychological control provided by parents may decrease according to the control the parents perceive to be required for the developmental stage of the child. This would especially be true for parents who become more perceptive of the youth's need for autonomy over time. If this reasoning is correct, then, over time, an increase should be found in the negative relationship between autonomy and psychological control.

Parenting report type. Researchers differ in the degree to which they expect children to be able to accurately report on their experience of parenting and thus differ in the degree to which they favour parent, youth, or observer ratings. The majority of parenting research utilises youth's perception of the parenting approach. Other studies may use parent report or even observational reports of parenting (e.g., Cheung et al., 2016). There are also studies that

distinguish between maternal and paternal parenting (e.g., Hauser Kunz & Grych, 2013).

Each approach has their pros and cons in terms of accurately representing the parenting

approach that is used (Barber et al., 2005). Different approaches may affect the degree to

which autonomy supportive or controlling parenting is reported, and in turn moderate the

relationship between the two parenting dimensions.

Youth report of parenting (i.e., perceived parenting) is often utilised because it is

consistent with the interest in understanding children's unmediated perceptions of their

experiences and, it is thought, that children respond more honestly (Barber & Harmon, 2002).

Indeed, children have been found to report less positive parenting behaviour than parents

(e.g., Bögels, van Oosten, Muris, & Smulders, 2001). It is often also found that a young

person's own perception of parenting is more important than the parents' perceptions in

predicting mental health (e.g., Boyce et al., 1998). Feelings of pressure or even autonomy are

subjective experiences that suggest direct assessment by the subject is most valuable (Barber,

1996). Indeed, it is even possible for two adolescents to experience the same environment in

different ways and thus respond to that perception differently (e.g., Ryan & Grolnick, 1986).

Whilst a young person's perception of the parent may provide a better index of the

function of a parent's behaviour, a parents' self-report may provide some benefits. Barber

and Harmon (2002) argue that parents have a better memory of the behaviour, can better

recognise the approaches they have tried, and possess the cognitive finesse to appropriately

distinguish between approaches. Some of these arguments however, may again be dependent

on the developmental stage of the child.

Observational assessment of parenting using clear observational coding methods may

avoid some of the issues found in child and parent reports. Independent observers are

assumed to be relatively uninfluenced by any social desirability bias, particularly when the

observer is trained to code the observations (Bögels & van Melick, 2004). Such a coding

procedure also eliminates any potential issues of recalling the behaviour (Hauser Kunz, 2008; Bögels & van Melick, 2004). The issues with observational studies however, is that such an approach only provides a snapshot of parent-child interaction and as such may be more likely to reflect autonomy and control as a single continuum as they are closer to momentary assessments (see above). Observation is often a specific situation, not an accumulated average of how parents act across situations. Both parents and children may also adjust the way they act during observational studies as they are aware they are being observed.

All these report types may have considerable influence on the levels of autonomy support and psychological control being reported. This is demonstrated in a study by Skinner et al. (2005) in which autonomy supportive and controlling parenting showed a large correlation with the adolescent sample while a small correlation was found with the parent sample. As such, this meta-analysis examines difference in the relationship between the two parenting dimensions depending on the type of measurement report. As noted above, however, this relationship is likely to be developmentally dependent, and thus variance is expected to increase when taking developmental differences into account.

Mother and father targets. When measuring parenting styles a distinction can also be made between maternal and paternal parenting. It might be expected that most parents are similar in their approaches to parenting. Parents tend to influence each other, and individuals who are more similar in beliefs and attributes are more likely to retain a relationship with each other (Luo & Klohnen, 2015). However, the little research that does make a distinction between maternal and paternal parental approaches suggests that mothers often use more autonomy support and psychological control than fathers (e.g., Barber et al., 2002; Lansford, Laird, Pettit, Bates, & Dodge, 2011; Luebbe, Bump, Fussner, & Rulon, 2014; Mageau et al., 2015). Further, as parents often find it difficult to adjust their parenting according to the

needs of the child throughout development (Steinberg & Silk, 2002), it is also possible that mothers and fathers react differently to such changes.

Different report types (i.e., youth, parent, and observer) and targets (i.e., mother and father) are likely to affect the degree to which autonomy support and psychological control are reported, and so also how these parenting dimensions are related to each other. I therefore expect the correlation between autonomy supportive and psychologically controlling parenting to be modified by measurement approach taken. In line with report type, I also expect report target to explain more variance of the autonomy support and psychological control relationship when used as moderator in conjunction with developmental stages.

Further moderators. The relationship between autonomy supportive parenting and psychological controlling parenting may also be affected by the domain parenting is measured in, or the level of parenting assessment. There are research areas where distinctions are found between concepts measured in a dispositional fashion or a more situation specific fashion (e.g., self-concept research; Marsh, 2007). It is plausible to predict a greater negative association between the parenting styles when considered for a specific domain than a general domain, as it is more specific and easier to remember the parenting approach used in a single domain, compared to the general parenting approach, which spans a greater period of time. However, the difference in relationship of autonomy support and psychological control between a dispositional and situation-specific measurement approach only remains as a research question as there is no previous research on this.

The Present Study

There has been a long-ongoing trend in treating autonomy supportive and psychological controlling parenting as opposing sides of a single continuum. Initial research approached these parenting dimensions as a continuum, but later research has shown that

these two parenting approaches, although having a defined theoretical relation to each other, are related to some distinct outcomes (e.g., Wang, Pomerantz, & Chen, 2007).

In this meta-analysis I compiled data of all literature that reports correlations between autonomy supportive and psychologically controlling parenting. Given the variety of measurement approaches and developmental periods covered in the literature, I expect to find correlations between autonomy support and psychological control that vary greatly in size and even direction. In parenting research there are issues related to failing to account for both development of youth and the variety in measurement approaches that may account for this variance. Different levels of autonomy support and psychological control are often found when changing focus of the developmental stage of the participant (Steinberg & Silk, 2002), the report type (Bögels & van Melick, 2004), and the target parent (Barber et al., 2002). By using these methodological differences as variables in the meta-analysis, I aim to explain the variance in the relationship between autonomy support and psychological control.

Hypothesis 1: I hypothesise that autonomy support and psychological control are related but distinct. Thus, I expect the average effect size based on existing studies to show a moderate negative relationship, but not a large negative correlation (i.e., one that approaches negative one). However, I also expect the variance in this relationship between studies to be large.

Hypothesis 2: I expect variance in the autonomy support and psychological control correlation to be partially explained by the developmental stage of the participants, with the relationship becoming more negative throughout development.

Hypothesis 3: It is hypothesised that variance in the relationship between autonomy support and psychological control in existing studies will be partially explained by the report type of the parenting measurements, and this explanation will increase in salience when combined with developmental stages.

Hypothesis 4: Variation in the autonomy support and psychological control relationship in existing studies is hypothesised to be explained, to some extent, by variation in reporting target (i.e., maternal and paternal parenting), and this explanation will increase in salience when combined with developmental stages.

Method

The method section was written in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement (Moher et al., 2010). The research ethics committee declared this study exempt as a meta-analysis does not require an ethics review.

Eligibility Criteria

For studies to be included in the meta-analysis they were required to quantitatively assess autonomy supportive and psychological controlling parenting, and include a quantitative assessment of the relationship between autonomy support and psychological control. Descriptions of both these parenting styles can vary however. For autonomy supportive parenting any scales that referred to autonomy granting or psychological autonomy often refer to the same construct. Nonetheless, there are studies where autonomy support is conflated with independence (for a review see Soenens et al., 2007). I included studies regardless of whether autonomy support was conflated with independence. However, autonomy support conflated with independence may moderate the relationship between autonomy support and psychological control (see Soenens, Vansteenkiste, & Sierens, 2009). As such every study was categorised as either volitional autonomy support (i.e., autonomy support according to SDT) or independence autonomy support (i.e., autonomy support conflated with independence) in accordance with Soenens et al.'s (2007) definition of autonomy support, this distinction was then used in the moderation analysis. There are further studies that explicitly split autonomy support into two components: promotion of volitional

functioning and promotion of independence (e.g., Soenens et al., 2007). Only the effect size

of the relationship between psychological control and promotion of volitional function was

included in such cases, as this represents autonomy support as intended by SDT (see Soenens

et al., 2007).

There are many types of control besides psychological control including behavioural,

intrusive, hostile, and simply controlling parenting. Studies focusing on behavioural control

were excluded from the study. As explained in the literature review, behavioural control

represents a different construct than psychological control (Barber, 1996) and, as opposed to

psychological control, is positively related to autonomy support and developmental outcomes

(Grolnick, 2003). Studies using external types of control (e.g., verbal or physical abuse) were

excluded as psychological control is strictly an internal type of control (Soenens &

Vansteenkiste, 2010). Hostile and intrusive control are occasionally used as a synonym for

psychological control (e.g., Grolnick, 2003; Oudekerk et al., 2014). These studies, as well as

those with just controlling parenting, were included in the meta-analysis, but a distinction

was made between psychological control or general coercive control based on whether the

content of the scales used were in accordance with Barber's (1996) conceptualisation of

psychological control. How those control scales differentially relate to autonomy support

from psychological control was then tested using moderation analysis. Any studies with

measures that were referred to as coercive types of control within text (e.g., hostile and

intrusive control), but of which individual items could not be found, were categorised as

general coercive control scales by default.

Both published and unpublished studies were included, studies were not excluded

solely on the publication status. No restrictions for publication date were used. Participants of

any age groups and country were included. Full text of the study had to be available. Studies

that only reported qualitative data were excluded as such studies do not provide effect sizes.

To be eligible for inclusion the article had to include original data. Studies that were not published in the English language were initially included as it would have been easy to find the required effect size with the help of Google Translate. However, this approach was largely only effective for languages based on Roman alphabet. Some non-Roman alphabet studies were therefore removed in the screening process.

Search Strategy

The systematic search was conducted in June 2016 using the databases ERIC and PsychINFO. The searches included keywords of both autonomy support (autonom* support*, autonom* grant*, and psych* autonom*) and psychological control (psych* control* and control*) together with parenting (parent*). Although searches for systematic reviews should be thorough and identify the maximum number of possible, relevant studies (Booth, 2011), it is also important to use key words that are balanced between comprehension (i.e., sensitivity) and relevance (i.e., precision) of the search. Although I used the keyword for control (control*) by itself, I did not do the same for autonomy (autonom*). I had to exclude the keyword from the search as it multiplied the returned result by a factor of four but did not increase the number of relevant studies. Indeed, the additional studies were related to autonomy as a psychological need and autonomous motivation, rather than autonomy support. I therefore excluded "autonomy" by itself from the search term to maintain balance between a sensitive yet relevant search. The exact search term used is available in the supplementary material. Lead authors were contacted when full text of an article could not be obtained. When no response was given the article was excluded. I further sent out a request to relevant electronic mailing lists (LISTSERVS) with the inclusion criteria for authors to send in any unpublished articles. The majority of authors that publish in the field relevant to this study are subscribed to these LISTSERVS, yet no articles that were not already included in

the study were forwarded to us. Reference lists of relevant papers were further searched for

possible missed articles, but no further relevant literature found.

Study Selection

All studies that were found to possibly meet the eligibility criteria were gathered in an

Endnote library and any duplicate papers were taken out. Two independent reviewers then

assessed the title and abstract of each study. Only studies that were excluded by both

reviewers were removed from the screening. The same reviewers independently screened the

full-text of the remaining articles for eligibility. Any discrepancies regarding eligibility were

discussed between the two reviewers to reach consensus. When consensus was not reached a

third independent reviewer was asked. Where results were present in both a dissertation and a

journal article, the journal article was preferred and the dissertation was excluded.

Data Collection

Data extraction was conducted by the lead researcher. Extracted data included sample

size, publication year, mean age, sample region, sex ratio, scales used for autonomy support

and psychological control, reliability coefficients, report type of parenting scale (i.e., child,

parent, or observer), report target of parenting scale (i.e., mother, father, or report on

combined mother and father), and the effect size of the autonomy support and psychological

control relationship. A second researcher cross-checked the extracted data for mistakes. Any

inconsistencies were examined, discussed, and resolved.

The mean age of each study was categorised into five developmental stages: early

childhood (age 0-6), school-age (age 6-12), early adolescence (12-15), late adolescence (15-

18), and emerging adulthood (18+). There were no studies with a mean age higher than 23.

As discussed before, information about the psychological control scales were used to

categorise the studies into either psychological control (i.e., scale and/or items clearly

referring to psychological control) or general coercive control (i.e., unclear whether the scale measured psychological control).

Statistical Analysis

Effect sizes of the autonomy support and psychological control relationship were extracted from each study that passed eligibility screening (Borenstein, Hedges, Higgins, & Rothstein, 2009; Rosenthal, 1991). Effect sizes of a population can be underestimated because of issues with the measures failing to identify true scores of the participants (Hunter & Schmidt, 2004). Each effect size was corrected for such attenuation using internal consistency scores, such as Cronbach's alpha, of both the autonomy support and psychological control measures (Charles, 2005; Hunter & Schmidt, 2004). Two studies did not report an estimate of reliability and no similar studies with an internal consistency score were found, thus for those studies the conservative reliability estimate of .70 was used (Cohen et al., 2003). Because the Pearson's r effect size becomes skewed the further the value deviates from zero, r was converted to Fisher's z. The Fisher's z transformation converts all Pearson's r effect sizes to the normal distribution of z (Borenstein et al., 2009; Rosenthal, 1991). The variance (v) and standard errors (se) of the effect sizes were then calculated.

To conduct a meta-analysis most researchers have been using fixed-effects and random-effects models, but both these approaches are limited as they assume independence among studies (Field, 2003). This means that studies that include multiple-effect sizes cannot be appropriately used as clusters of effect sizes are more likely to be correlated. Some methods that have been used to account for these clusters include: averaging the effect sizes, selecting one of the effect sizes, minimising the violation of the assumption of independence, or simply not reporting how the issue has been dealt with (see Ahn, Ames, & Myers, 2012; Cooper, 1989). By using these methods, information about the actual available effect sizes

may be lost. This may limit conclusions of the analyses and moderators that could be

included in the analysis (Cheung, 2014). Although the use of three-level mixed effects

models accounts for the use of multiple data points from a single study, I still only used data

of the first time wave from longitudinal studies. Longitudinal studies consist of multiple

effect sizes from the same sample. Keeping all time waves in the meta-analysis would have

inflated the importance of those specific samples.

   Analysis approach. Multilevel and structural equation modelling was used to avoid

effects of the assumption of independence which meta-analyses usually suffer from (Marsh,

Bornmann, Mutz, Daniel, & O'Mara, 2009; Van Den Noortate & Onghena, 2003). These

approaches also allow for exploration of heterogeneity in effect sizes by including covariates

and moderator variables in the analysis (Van Den Noortgate & Onghena, 2003). Specifically

the combination of multilevel and structural equation modelling in meta-analysis allows for

methodological advantages such as flexible parameter constraints, a greater accuracy for

confidence intervals, and the use of full information maximum likelihood for missing

covariates (Cheung, 2009, 2014). In the current meta-analysis the multilevel structural

equation modelling approach was used. All analyses were conducted utilising the metaSEM

package (Cheung, 2011) in R Version 3.3.1 (R Core Team, 2017). I used three-level mixed

effects meta-analyses to account for clusters and calculated the overall pooled effect size. The

weighted effect sizes (*r*, converted back from *z*) and 95% likelihood-based confidence

intervals (CI) were reported. When the 95% CI does not cross zero there is a significant

relationship between autonomy support and psychological control (Cheung, 2009). To

interpret the strength of Pearson's *r* correlation a scale of .1 (small), .3 (moderate), and .5

(large) was used (Cohen, 1988).

   Heterogeneity of the pooled effect sizes was evaluated with the I^2 (Higgins,

Thompson, Deeks, & Altman, 2003). An I^2 statistic of 50% or higher may indicate substantial

heterogeneity, and an I^2 above 75% indicates considerable and relevant heterogeneity

(Higgins & Green, 2011). Moderator analyses were used to explain heterogeneity in the

relationship between autonomy support and psychological control (Shadish & Sweeney,

1991).

The proportion of heterogeneity variance explained by the moderator variable (R^2)

was calculated with each moderator analysis (Cheung, 2015). The moderator analysis also

provided the contribution of heterogeneity for each moderator variable category (I^2). I further

reported the chi-square difference ($\Delta\chi^2$) for the omnibus ANOVA test between each mixed-

effects model with moderator and the original mixed-effects model to indicate whether the

moderator model is significantly better fitting than the original model. A significant

difference indicates that the moderator variable explains the heterogeneity in the effect sizes.

The moderator variables that were tested for include: report type (i.e., youth report,

parent report, observer report), report target (i.e., parenting mother, parenting father,

combined parenting mother and father), developmental stage (i.e., early childhood, school-

age, early adolescence, late adolescence, emerging adulthood), control type (i.e.,

psychological control, general coercive control), sample region (i.e., Continental Africa,

Western countries, Central and South America, Asia), sex ratio, publication status (i.e.,

dissertation, journal article), combined developmental stage with report type (e.g., school-age

youth report, school-age parent report, early adolescence parent report), combined

developmental stage and report target (e.g., school-age mother, school-age father, early

adolescence mother), and risk of bias within studies.

Risk of Bias Across and of Individual Studies

Risk of bias across studies and publication bias was examined using a funnel plot and

Egger's regression asymmetry test. In a funnel plot the standard error is plotted on the y-axis

and the effect size on the x-axis. A symmetrical funnel in the funnel plot indicates that there

is no publication bias (Sterne, Egger, & Moher, 2011). Egger's test was used to quantify the publication bias (Egger, Smith, Schneider, & Minder, 1997).

To assess the risk of bias in individual studies I adapted the Consolidated Standards of Reporting Trials statement (CONSORT; Moher et al., 2010) and quality criteria for measurement properties developed by Terwee et al. (2007) as there are no direct guides to assess risk of bias for correlational studies. The risk of bias criteria included the following five criteria: (a) random selection of participants and/or schools, (b) power calculation has been reported and study is adequately powered to detect the hypothesis, (c) autonomy supportive parenting style scale with strong psychometric properties used, (d) psychologically controlling parenting scale with strong psychometric properties used, (e) the effect size is a latent correlation (as opposed to a manifest correlation). A common criterion regarding the reliability of the scales was not used because reliability was already corrected for in the data analysis (see above). Two researchers independently marked a 0 (i.e., absent and/or inadequate description) or a 1 (present and/or explicit description) to each criterion for every included study. Discrepancies between the researchers were resolved through discussion. Studies were categorised as high, moderate, or low risk of bias depending on how many criteria points were met (i.e., high, 0-1 points; moderate, 2-3 points; low, 4-5 points). High risk of bias indicates a low likelihood that the results of the study represent the true effect (Higgins & Green, 2011).

Results

The search through electronic databases and requests for unpublished work returned a total of 526 non-duplicate studies. Of these 526 studies 226 were retained for full-text screening after title and abstract screening. Fifty of the full texts that were reviewed met the eligibility criteria. All 50 of these studies were included in the meta-analysis. More detailed results of this study selection are presented in Figure 5.1.

Study Characteristics

Fifty studies were included in the meta-analysis which contained a total of 83 original data points, comprising a total of 31,979 participants. Publication dates of these studies ranged from 1995 to 2016 with 54% of the studies coming from the last five years. The sample size of each data point ranges from 35 (van der Bruggen et al., 2010) to 9,654 (Silk et al., 2003). The mean age of participants per study ranged from 3.1 years (Meuwissen & Carlson, 2015) to 22.6 (Vansteenkiste, Zhou et al., 2005). There were samples were from Continental African ($k = 2$), Western ($k = 40$), Asian ($k = 11$), and Central and South American ($k = 3$) regions. The majority of the study samples included an equal spread of boys and girls ($k = 34$), but there were more studies that had a majority of girls ($k = 8$) or only girls ($k = 7$), compared to a majority of boys ($k = 1$) and only boys ($k = 1$).

There was a clear spread in developmental stages among the participants but more studies looked at early adolescence ($k = 17$), compared to early childhood ($k = 4$), school-age ($k = 10$), late adolescence ($k = 10$), and emerging adulthood ($k = 11$). The majority of the studies clearly defined the use of a psychological control measure ($k = 32$) as opposed to a general coercive control type ($k = 18$). Likewise, the majority of the studies used volitional autonomy support ($k = 38$) as opposed to autonomy support conflated with independence ($k = 12$). Many more studies assessed general parenting ($k = 44$) than parenting specific to the educational domain ($k = 7$). Autonomy support and psychological control were measured with youth report ($k = 36$), parent report ($k = 10$), and observation ($k = 7$). Different studies reported parenting styles from only the mother ($k = 18$), father ($k = 10$), or a combination of mother and father ($k = 31$). Information on the spread of studies for the combined developmental stages and report type and developmental stages and report target can be found in Table 5.1. Further comprehensive and more detailed information on the eligible studies can be found in the supplementary material.
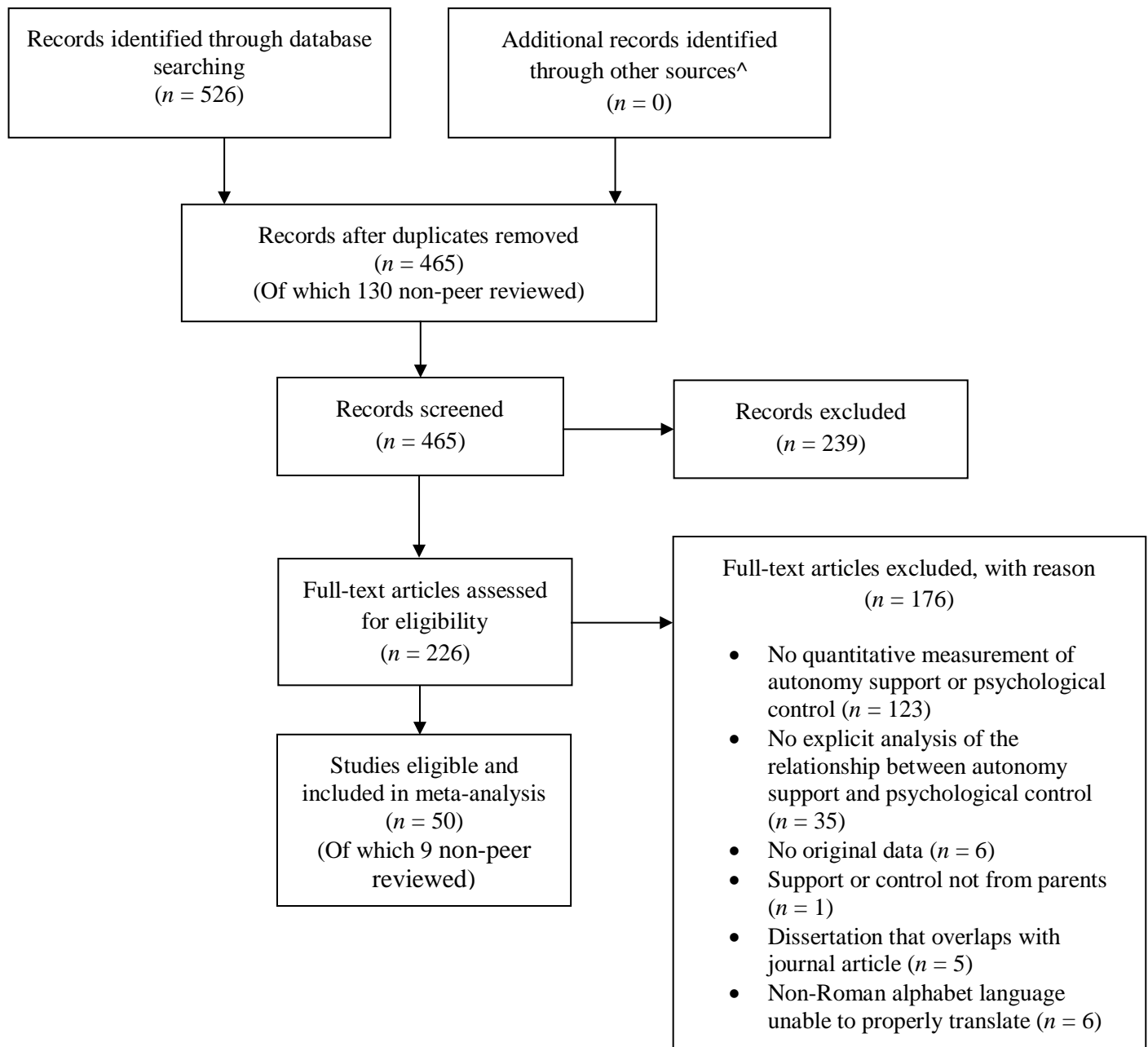
Figure 5.1. Flow diagram of search results and article screening (Moher, Liberati, Tetzlaff, & Altman, 2009)

^ additional resources that were utilised include requests sent out through relevant LISTSERVS and searches through the reference lists of identified relevant literature. This returned no new articles.

A variety of scales to measure autonomy supportive and psychologically controlling parenting were found in the eligible studies. Across these studies the three main scales to measure autonomy supportive parenting were the Psychological Autonomy Granting subscale from the Parenting Questionnaire (Silk et al., 2003), the Autonomy Support Scale (Soenens et al., 2007), and the Perception of Parents Scale (Grolnick, Ryan, & Deci, 1997). These three scales are each known for different characteristics. The Parenting Questionnaire is one of the autonomy support scales that conflates independence with autonomy support. The Autonomy Support Scale makes an explicit distinction between Promotion of Independence and Provision for Volitional Functioning. Last, the Perception of Parenting Scale explicitly provides a mother and father distinction in its questions. The main psychological control scales in the eligible studies were the Psychological Control Scale - Youth Self-Report (Barber, 1997) and the Psychological Control subscale of the Children's Report of Parenting Behaviour Inventory (Schaefer, 1965). The Psychological Control Scale – Youth Self-Report was used in the majority of the studies included in the meta-analysis and represents the revised understanding of psychologically controlling parenting established by Barber. The Psychological Control subscale of the Children's Report of Parenting Behavior Inventory is the original psychological control scale that Barber's more modern understanding of psychological control is based on. Observation scales of the parenting styles were based on each author's own coding scheme. A number of studies also created their own scales to measure autonomy support and psychological control. Details on each eligible study and the respective scales used to measure autonomy supportive and psychologically controlling parenting can be found in the supplementary material.

Synthesis of Results

The pooled effect size of the relationship between parental autonomy support and psychological control, calculated with the unconditional multilevel model, was found to be

moderate to large ($r = -.44$, 95% CI [-.55, -.32]; see Table 5.1). The variation of effect sizes that make up this pooled effect size showed considerably high heterogeneity ($I^2 = .99$). Cochrane's Q test also indicated a significant difference among the effect sizes ($\chi^2 [82] = 3908.00$, $p < .00$).This variation in effect size thus justifies moderation analyses.

Moderator Analyses

Next I describe results for the moderator analyses, and focus the discussion on analyses that are significant and explain variance in the effect sizes. Results of all moderator analysis can be found in Table 5.1. Because two categories for autonomy supportive and controlling parenting (see Method section) were identified, I first tested whether these distinctions moderated differences in the relationship between autonomy support and control. A distinction between autonomy support types did not explain variance ($\Delta\chi^2 = 1.63$, *ns*; $R^2 = .03$), and there was no significant difference between the effect sizes of the two types of autonomy support ($\Delta r = .17$, 95% CI [-.11, .50]). The rest of the analysis will use both autonomy support types combined. Also the distinction between types of control was not a significant moderator at conventional levels ($\Delta\chi^2 = 3.32$, $p < .10$; $R^2 = .08$; $\Delta r = .22$, 95% CI [-.55, .02]). Hence, both control types were used together for the rest of the analysis which will further simply be referred to as psychological control.

Developmental stages. The ANOVA test between the mixed effects model with developmental stages as moderator and the original mixed effects model showed that developmental stages significantly explained differences in the relationship between autonomy support and psychological control ($\Delta\chi^2 = 19.27$, $p < .00$). Developmental stages explained a large part of the heterogeneity found in the effect sizes ($R^2 = .42$). Autonomy support and psychological control showed a near-significant large relationship in early childhood ($r = -.62$, 95% CI [-.91, .07]), a large negative association in emerging adulthood ($r = -.74$, 95% CI [-.85, -.48]), and a moderate-to-large negative relationship in early

Table 5.1

Results of the Autonomy Support and Psychological Control Meta-Analysis and Moderator Analyses

Variable	k	#ES	n	r	95% Confidence Interval Lower	Upper	I^2	ANOVA $\Delta\chi^2$	R^2
Overall relationship	50	83	31979	-.44***	-.55	-.32	.99		
Sex								7.22*	27%
All boys	1	2	698	-.54***	.82	-.68	.89		
Majority boys	1	1	67						
Half girls/boys	34	48	12757	-.40***	-.55	-.22	.99		
Majority girls	8	13	3998	-.64***	-.75	-.50	.96		
All girls	7	11	2751	-.49**	-.72	-.15	.98		
Sample region								6.95^	26%
Continental African	2	2	153	-.30*	-.52	-.04	.60		
Western	40	60	25931	-.45***	-.55	-.34	.99		
Central and South American	3	6	1955	-.25	-.73	.39	.99		
Asian	11	14	3940	-.39^	-.68	.00	.98		
Parenting application								1.00^	5%
Educational	7	13	28176	-.22	-.52	.13	.99		
General	44	70	3803	-.48***	-.59	-.36	.99		
Control type								3.32^	8%
Psychological control	32	50	24471	-.52***	-.63	-.39	.99		
General coercive control	18	33	7508	-.30*	-.50	-.07	.98		
Autonomy support type								1.63	3%
Volitional autonomy support	38	67	19412	-.48***	-.61	-.34	.99		
Independence autonomy support	12	16	12567	-.31***	-.42	-.18	.95		
Publication status								1.83	4%
Dissertation	9	17	2570	-.27***	-.41	-.11	.93		
Published journal article	41	66	29409	-.48***	-.60	-.34	.99		
Developmental stage								19.27***	42%
Early childhood	4	6	412	-.62^	-.91	.07	.98		
School-age	10	16	3681	-.17	-.43	.12	.98		
Early adolescence	17	25	7267	-.29***	-.39	-.20	.95		
Late adolescence	10	15	14604	-.33**	-.51	-.12	.99		
Emerging adulthood	11	20	6015	-.74***	-.85	-.48	.99		
Report type								0.82	2%
Youth report	36	57	27033	-.48***	-.58	-.35	.99		
Parent report	10	13	3773	-.24^	-.45	.00	.98		
Observer report	7	11	1094	-.54*	-.79	-.13	.97		
Developmental stage and report type								23.81**	53%
Early childhood									
Youth report	0	0	0						
Parent report	0	0	0						
Observer report	4	6	412	-.62^	-.91	.07	.98		
School-age									
Youth report	5	7	1575	-.18	-.48	.16	.97		
Parent report	5	6	1818	-.06	-.42	.32	.98		
Observer report	2	3	288	-.55***	-.70	-.37	.59		

(continued)

Variable	k	#ES	n	r	95% Confidence Interval Lower	Upper	I²	ANOVA Δχ²	R²
Early adolescence									
Youth report	13	17	4930	-.30***	-.41	-.19	.95		
Parent report	4	5	1864	-.38***	-.55	-.17	.95		
Observer report	1	2	394	-.18	-.38	.04	.80		
Late adolescence									
Youth report	9	13	14513	-.30**	-.50	-.08	.99		
Parent report	1	2	91	-.50***	-.69	-.26	.42		
Observer report	0	0	0						
Emerging adulthood									
Youth report	11	20	6015	-.51***	-.69	-.57	.99		
Parent report	0	0	0						
Observer report	0	0	0						
Report target								0.18	0%
Mother	18	27	6092	-.44***	-.58	-.27	.97		
Father	10	12	2002	-.50***	-.68	-.27	.96		
Combined parents	31	44	23885	-.42***	-.54	-.19	.99		
Developmental stage and report target								30.15**	62%
Early childhood									
Mother	3	3	201	-.52	-.91	.35	.98		
Father	3	3	211	-.35	-.81	.39	.96		
Combined	0	0	0						
School-age									
Mother	3	4	771	-.42	-.92	.62	.00		
Father	1	1	90						
Combined	7	11	2820	-.01	-.34	.33	.98		
Early adolescence									
Mother	5	10	2715	-.26^	-.50	.00	.96		
Father	1	1	38						
Combined	12	15	4514	-.29***	-.41	-.16	.96		
Late adolescence									
Mother	4	6	1591	-.41**	-.63	-.14	.97		
Father	2	3	853	-.66***	-.70	-.62	.00		
Combined	6	6	12160	-.22	-.46	.06	.99		
Emerging adulthood									
Mother	3	4	814	-.60***	-.71	-.45	.64		
Father	3	4	810	-.50***	-.69	-.24	.92		
Combined	8	12	4391	-.79***	-.90	-.59	.99		

^ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .00$

Note: k, number of studies; #ES, number of effect sizes/data points; r, effect size for correlation between autonomy supportive and psychological controlling parenting; $I²$, proportion of variance due to heterogeneity; $R²$, explained variance; ANOVA $\Delta\chi²$, chi-square of difference test between the mixed effects model with moderator and the original mixed-effects model.

adolescence ($r = -.29$, 95% CI [-.39, -.20]) and late adolescence ($r = -.33$, 95% CI [-.51, -.12]). School-age children showed a non-significant relationship ($r = -.17$, 95% CI [-.43, .12]).

Developmental stages and report type. A combination of developmental stages and report type also explained variation in the collected effect sizes ($\Delta\chi^2 = 23.81$, $p < .01$) and thus the heterogeneity in the pooled effect size ($R^2 = .53$). Moderate to large associations were found for early adolescent youth ($r = -.30$, 95% CI [-.41, -.19]) and parent ($r = -.38$, 95% CI [-.55, -.17]) reports, and late adolescence youth reports ($r = -.30$, 95% CI [-.50, -.08]). A large relationship was found for late adolescence parent reports ($r = -.50$, 95% CI [-.69, -.26]), school-age observer reports ($r = -.55$, 95% CI [-.70, -.37]), and emerging adulthood youth reports ($r = -.74$, 95% CI [-.85, -.57]). It is important to note however, that only a small number of effect sizes were used to estimate the effect size for school-age observer (#ES = 3, $k = 2$), early adolescent observer (#ES = 2, $k = 1$), and late adolescence parent (#ES = 2, $k = 1$) reports. No studies were found to create pooled effect sizes for early childhood child and parent report, late adolescence observer report, and early adulthood parent and observer report.

Figure 5.2 illustrates how effect sizes change across developmental stages and how this is affected by report types. The observation studies on autonomy support and psychological control seem to be the reason for the large effect size at early childhood. The relationship between autonomy support and psychological control further show a linear negative increase from early childhood to emerging adulthood for youth and parent report, with a slight plateau around adolescence. It is difficult to conclude whether the effect size shows a similar linear negative increase for parent report as it did for youth report, because there were not many studies with parent reports at late adolescence and no parent report studies at emerging adulthood.
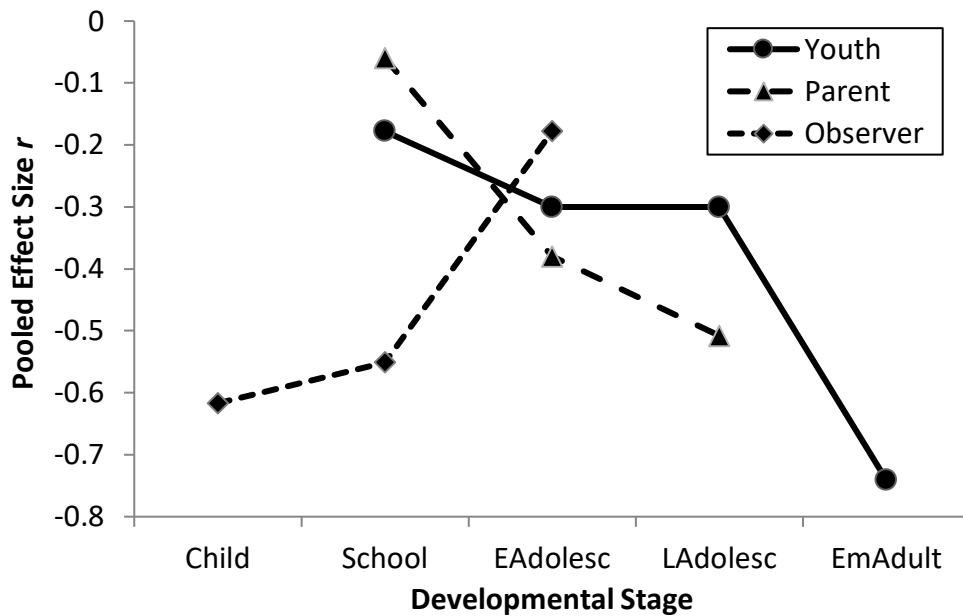
Figure 5.2. Graph showing pooled effect sizes of the autonomy support and psychological control relationship at different developmental stages for each report type. *Note*: Child = early childhood; School = school-age; LAdolesc = late adolescence; EAdolesc = early adolescence; EmAdult = emerging adulthood.

Developmental stages and report target. A combination of developmental stages and report target significantly affected the association between autonomy support and psychological control ($\Delta\chi^2 = 30.15$, $p < .01$), explaining substantial heterogeneity ($R^2 = .63$). There was a near significant relationship between autonomy support and psychological control in early adolescence reports on the mother ($r = -.26$, 95% CI [-.50, .00]). A negative moderate-to-large relationship for early adolescent reports on combined parents ($r = -.29$, 95% CI [-.41, -.16]) and late adolescent reports on mothers ($r = -.41$, 95% CI [-.63, -.14]) was found. A large negative relationship was found for emerging adulthood reports on mothers ($r = -.60$, 95% CI [-.71, -.45]), emerging adulthood reports on combined parents ($r = -.79$, 95% CI [-.94, -.47]), and late adolescence reports on fathers ($r = -.66$, 95% CI [-.70, -.62]). In contrast, effect sizes that were not different from zero were reported for early childhood reports on mothers ($r = -.52$, 95% CI [-.91, .35]) and fathers ($r = -.35$, 95% CI [-.81, .39]), school-age reports on mothers ($r = -.42$, 95% CI [-.92, .62]) and combined parents ($r = -.01$,

95% CI [-.34, .33]), and late adolescence reports on combined parents ($r = -.22$,

95% CI [-.46, .06]). It is important to note that late adolescence reports on fathers only

consist of three original data points from two studies. Because there were insufficient studies

that reported on early childhood reports on combined parents ($k = 0$), school-age reports on

fathers ($k = 1$), and early adolescence reports on fathers ($k = 1$) a pooled effect sizes was not

created for these categories. Figure 5.3 illustrates how effect sizes change across

developmental stages and how this is affected by report target.
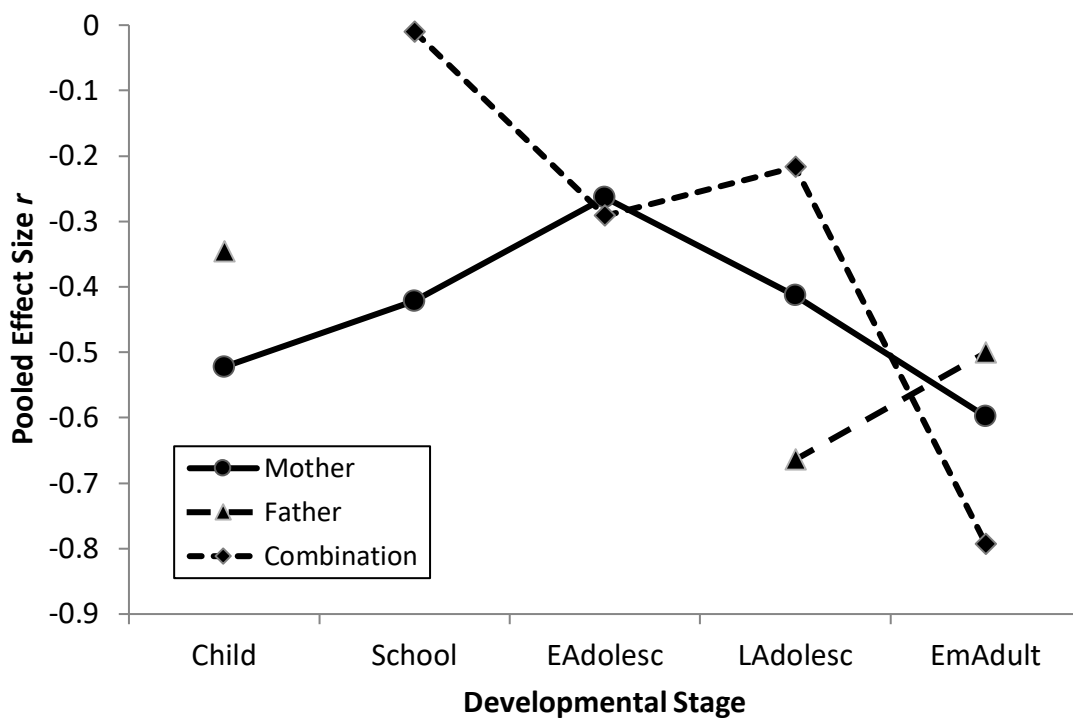
Figure 5.3. Graph showing pooled effect sizes of the autonomy support and psychological control relationship at different developmental stages for each report target. *Note*: Child = early childhood; School = school-age; LAdolesc = late adolescence; EAdolesc = early adolescence; EmAdult = emerging adulthood.

Sex ratio. Differences in the sex ratio of the participant samples explained variations

in effect sizes of the autonomy support and psychological control relationships ($\Delta\chi^2 = 7.22$,

$p < .05$), with a relatively small amount of the variance being explained ($R^2 = .27$). A

moderate-to-large relationship between autonomy support and psychological control was

found for samples with an equal balance of girls and boys ($r = -.40$, 95% CI [-.55, -.22]. A large relationship was found for samples comprising of all boys ($r = -.54$, 95% CI [-.82, -.68]), majority girls ($r = -.64$, 95% CI [-.75, -.50]), and all girls ($r = -.49$, 95% CI [-.72, -.15]). It has to be noted that the all-boys effect size only consists of two data points from a single study. A pooled effect size was not created for studies with a majority boys sample as there were insufficient studies ($k = 1$).

Sex ratio mainly appeared as moderator because of the difference between the effect size of samples with an equal balance between boys and girls and the effect size of samples that consist of a majority of girls ($\Delta r = .24$, 95% CI [.11, -.50]). Eleven out of the 13 original data points of samples that consist of a majority of girls also fall under the emerging adulthood developmental stage. Since emerging adulthood is the developmental stage with the largest pooled effect size, I further tested whether sex ratio still moderated the relationship between autonomy support and psychological control when controlling for developmental stage. Sex ratio did not explain variations in effect sizes of the relationship between autonomy support and psychological control anymore once developmental stage was controlled for ($\Delta\chi^2 = 5.37$, ns), showing it was unlikely to be sex ratio that moderated the relationship, but the developmental stage of the participants.

Parenting application. Comparison of the domain (parenting specifically with reference to education versus general parenting) in which parenting took place was not significant at conventional levels but was marginally significant given more liberal criteria ($\Delta\chi^2 = 1.00$, $p < .10$). However the variance explained by domain was not practically significant ($R^2 = .05$). Autonomy supportive and psychological controlling parenting with reference to education were not significantly related ($r = -.22$, 95% CI [-.52, .13]), whereas a moderate-to-large significant relationship between the two parenting styles was found when they referred to parenting in general ($r = -.48$, 95% CI [-.59, -.36]).

Sample region. Comparison of the region the parenting samples came from was also not significant at the conventional levels, but marginally significant with more liberal criteria ($\Delta\chi^2 = 6.95$, $p < .10$) with a relative small amount of the variance being explained ($R^2 = .26$). Samples from Central and South America showed a non-significant relationship between autonomy support and psychological control ($r = -.25$, 95% CI [-.73, .39]). A negative moderate relationship was found between autonomy support and psychological control for samples from Continental Africa ($r = -.30$, 95% CI [-.52, -.04]). Autonomy support and psychological control showed a nearly significant negative relationship in samples from Asia ($r = -.39$, 95% CI [-.68, .00]), while a significant moderate-to-large relationship was found for samples from Western regions ($r = -.45$, 95% CI [-.55, -.34]). It is important to note that there were only two studies with samples from Continental Africa, comprising only two data points. To gain a more detailed understanding regarding the role of ethnicity within these sample regions I also tested for moderation by ethnicity within the traditional multicultural countries (i.e., United States, United Kingdom, Australia, Canada, and New Zealand; see Kymlicka, 2007). However, ethnicity within the traditional multicultural countries did not moderate the relationship between autonomy support and psychological control ($\Delta\chi^2 = 4.68$, *ns*; $R^2 = .36$), though this may be due to the smaller number of cases.

Risk of Bias Across Studies

Journal articles that examined the relationship between autonomy support and psychological control reported a near-large negative association ($r = -.48$, 95% CI [-.60, -.34]) while dissertations reported a moderate-to-large association ($r = -.27$, 95% CI [-.41, -.11]); this difference was not statistically significant however. The funnel plot of the effect sizes (see Figure 5.4) suggests no publication bias, in that effect sizes are symmetrically spread across the plot. This was further confirmed with non-significant Egger's test results ($t = -1.23$, *ns*).
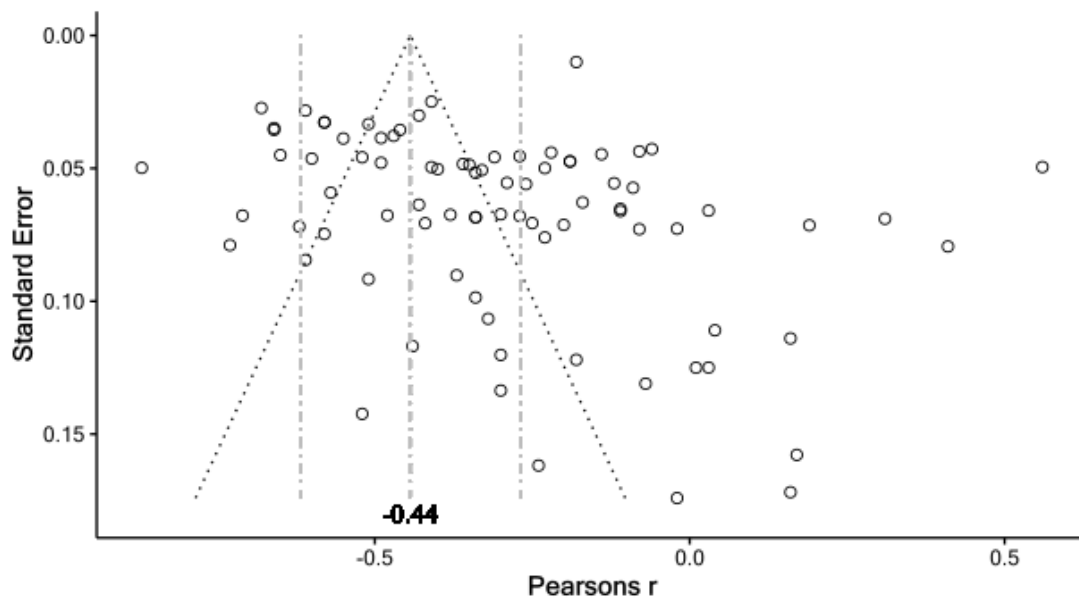
Figure 5.4. Funnel plot of the effect sizes of the relationship between autonomy supportive and psychological controlling parenting (corrected for attenuation) and the standard error, including pooled effect size and lines corresponding to the 95% confidence interval.

Risk of Bias within Studies

There was an interrater agreement of 92.35% for the risk of bias assessment. All disagreements between the two researchers were resolved after discussion. Nineteen studies were categorised as high risk of bias, 30 studies as moderate risk of bias, and one study as low risk of bias. Risk of bias did not explain heterogeneity in the relationship between autonomy support and psychological control between studies ($R^2 = .01$). Both studies that were rated as high and moderate risk of bias reported a moderate-to-large relationship, ($r = -.43$, 95% CI [-.62, -.18]) and ($r = -.46$, 95% CI [-.58, -.33]) respectively. The study rated as low risk of bias reported a weak relationship between autonomy support and psychological control ($r = -.16$, 95% CI [-.26, -.05]).

Discussion

As hypothesised, autonomy supportive and psychologically controlling parenting constructs are related but distinct parenting dimensions. This relationship between the two variables was found to have considerable heterogeneity. The heterogeneity was, as predicted, partially explained by the developmental stage of the participants in the studies. Unexpectedly however, the effect size variability was not explained by the report type (i.e., child, parent, or observer) and report target (i.e., mother, father, or combined) of the parenting measurements alone. When report type and target were used as moderators with developmental stage, however, a significant relationship was observed.

Related but Distinct

This meta-analysis on the relationship between autonomy support and psychological control provides statistical support for the treatment of these two parenting constructs as separate dimensions, rather than two ends of a single continuum (Barber & Harmon, 2002; Silk et al., 2003). This "separate dimensions" approach already had some theoretical support as a) it is possible for parents to use both autonomy support and psychological control (Barber et al., 2002), b) autonomy support is a much more complex set of behaviours than the single approach of psychological control (Soenens et al., 2009), and c) both parenting styles have been shown to be related to some distinct outcomes (Barber & Harmon, 2002). Regardless, agreement between researchers has remained overdue. Not only did I find only a moderate-to-large negative pooled effect size of all studies, considerable variability in effect sizes were found, with some effects nearing zero. This provides clear support as to why autonomy support and psychological control may need to be treated as two parenting dimensions that are related but distinct.

Future research can use the clear distinction between autonomy support and psychological control to inform their research as to how these parenting constructs should be

treated in analyses and data collection. By using the dimensional approach, research can focus on how both parenting styles interact and present differential developmental outcomes. This, in turn, will help advance our understanding of parenting. Based on the findings, parenting interventions may need to focus on both autonomy support and psychological control simultaneously. Depending on the developmental stage of the youth an increase in autonomy supportive parenting will not necessarily lead to decreasing psychological control and vice versa.

Developmental Stages and Parenting

The developmental stage of participants was shown to be the strongest moderator of the link between autonomy support and psychological control. Starting from school-age there was a general monotonic increase in the negative relationship. One explanation of the findings regards youth's perception of parenting. The increase in a negative relationship between autonomy support and psychological control may represent the ability of children to better compare aspects of the two parenting styles as they age. Previous research with self-concept (Marsh & Ayotte, 2003) and multi-dimensional well-being (Chen, Morin, Parker, & Marsh, 2015) has shown that associations between constructs do indeed change with development, potentially in relation to children's growing cognitive complexity and accumulation of experience. In the current results, young children may be less sophisticated at comparing autonomy support and psychological control and thus do so with much greater random error. However, it must be noted that similar developmental patterns were also found when parenting style was evaluated at the level of the parents. Despite this, the response types are difficult to compare as data on parent report throughout development was not as complete as youth report. Thus, it is not possible to exclude the role of cognitive development in these results.

Another explanation for developmental stage as moderator comes from the inclusion of studies that conflate independence with autonomy support (see Soenens et al., 2007). Throughout adolescence it is natural to obtain increasing independence from parents (Arnett, 2007). It is thus possible that these results are driven by studies conflating independence with autonomy support, leading to increasing levels of "autonomy support" throughout development, resulting in changes in the autonomy support and psychological control relationship. However, developmental stages still explained variations in effect sizes of the relationship between autonomy support and psychological control when controlling for autonomy support type ($\Delta\chi^2 = 17.95$, $p < .01$). This showed that developmental stage does not moderate the relationship solely because of studies that conflate independence with autonomy support.

The third explanation of the developmental stage findings is that parents may have to reduce complexity of their parenting and lean towards one parenting approach once developmental pressures intensify into adolescence. The environmental context during this developmental period leads to higher stakes which include individuation, career related pressure, and exploration, which is also paired with an increase in impulsivity leading to more risk behaviour (see Arnett, 2007; Simmons & Blyth, 1987). The parent may choose to help their child by either maintaining facilitation of the need for autonomy or use more psychological control to direct the child's risk behaviour. A similar effect can be found in politics, where increase in salience of issues leads to greater political polarisation (e.g., Oosterwaal & Torenvlied, 2010). I speculate that parents may go through "parenting polarisation" once issues of developmental pressures intensify in importance and diversify in terms of the life domains they cover. Parenting polarisation may explain the increase in the negative relationship between parental autonomy support and psychological control as young people grow up.

Future research will have to explore developmental trajectories of parental autonomy support and psychological control to test whether parenting polarisation truly happens. There are some studies that do look at parenting trajectories (e.g., Gutman & Eccles, 2007; Luyckx et al., 2011), but there is currently no research that looks at the changes in both autonomy support and psychological control. Parenting interventions could be greatly informed by knowledge of typical developmental patterns. Differences in the parenting style relationships between developmental stages also indicate that research should not overgeneralise effects of parenting to multiple developmental stages.

Overestimation of Report Type and Target

Both report types and target of the parenting measurement did not, independent of developmental stage, explain the variety in reported relationships between autonomy support and psychological control. This is despite a variety of positive claims about the critical role such differences likely make. However, explained variance of participants' developmental stages did became more salient when report types and target were each combined with developmental stages.

By combining developmental stages and report target it becomes clear that the high negative relationship between parenting approaches is substantially influenced by observation report studies available for early childhood. This is likely because observer reports are generally taken from short interactions in a specific instance and thus would tend to lean more toward reporting on parenting behavioural instances (i.e., more akin to momentary assessment) than on more generalised assessments. Put simply, observer reports likely reflect assessments based on much narrower frames-of-reference than either parent or youth reports. This may, in turn, create a bias toward strong negative relationship between autonomy support and psychological control. As previously discussed, youth and parent report seem to be quite similar across development. Although observer report appears to converge with the

other report types at later developmental stages, caution must be exercised in the

interpretations because only a small number of studies used observer report past early

childhood.

The relationship between autonomy support and psychological control was found to

not change much for maternal and paternal parenting across developmental stages. However,

combined reporting shows a much weaker relationship between the two parenting styles at

early childhood. It is generally difficult to draw a conclusion about the role report target plays

in developmental stages because most pooled effect sizes consist of a only a small number of

studies. Future research is needed to examine potential differences in maternal and paternal

parenting styles.

Further Moderators

The domain of parenting was a marginally significant moderator of the relationship

between autonomy and psychological control. Many research areas, such as those involving

hope and self-concept, have shown that constructs can be both domain general and domain

specific (e.g., Marsh, 2007). Yet there is little research looking at domain specific parenting

styles. A greater negative relationship was not found for the specific domain compared to the

general domain however. Instead of approaching the domain of parenting distinction from a

level of assessment, it may be more accurate to simply approach it as different domains of

parenting. It is possible that parenting approaches may differ in, say, sport and education. For

example, parents may become more psychologically controlling when a young person is

failing at school, but not when failing at sport. While not significant at conventional levels,

the results here suggest increased research on life-domain specific parenting may be justified.

Although sample region was not significant at traditional thresholds ($p < .05$) the

results were marginally significant at more liberal criteria ($p < .10$) – consistent with the

relatively limited power present in some aspects of this meta-analysis. These marginally

significant results are not in conflict with existing research. Both autonomy support and

psychological control can vary in mean levels as a function of cultures and economic

conditions, but variations in them appear to function similarly in terms of impact on

motivation and wellness (e.g., Chirkov & Ryan, 2000). Yet there is some evidence that these

parenting styles may be interpreted differently depending on culture (e.g., Chao & Aque,

2009; Marbel and Grolnick, 2012; Helwig, To, Wang, Liu, & Yang, 2014). Psychological

control may even be perceived as an indication of loving parents and care for some Hispanic

children, depending on the motivation that underlies the psychologically controlling

parenting (Sher-Censor et al., 2016). It was only possible to classify studies by region not

culture given the information available. But the results did show, albeit at statistically

marginally significant levels, that the relationship between autonomy support and

psychological control appears to be weaker for samples from the Central and South American

region compared to samples from Asian and Western regions. More studies with samples

from different cultures may help clarify this relationship.

Limitations

There are several limitations that readers should be aware of when interpreting these

results. The current study found moderators that affected heterogeneity in the relationship

between autonomy supportive and psychologically controlling parenting, but not all variance

was explained by the moderators that were tested for. Therefore, other moderators may be of

interest. For example, both socio-economic status (SES) and personality of the child are

likely to affect the use of parenting (see Hoff, Laursen, & Tardif, 2002; Kiff, Lengua, &

Zalewski, 2011). However, studies have to make distinctions between the moderators within

the study to be able to take the moderators into account between studies. There have to be

more studies that analyse parenting for different levels of SES and distinct personalities to see

whether those moderators affect the autonomy and control relationship.

Not all categories that were tested for consisted of enough studies to accurately represent each pooled effect size. Therefore not all moderator analyses were sufficiently powered. This reflects clear gaps in the literature that should be addressed. These include studies with participants from Africa, measurement of paternal parenting for younger samples, measurement of parent report with older samples, and measurement of observation studies at later developmental stages.

The pooled effect size may weigh more towards specific groups for reasons that should be considered. Only data from the first time wave was used from studies with multiple time waves. While this is standard practice (e.g., Owen et al., 2016; White et al., 2017), it does bias the meta-analysis toward younger samples. I decided to exclude any additional time waves from the data because there are currently no effective ways to deal with auto-regression in meta-analyses when there are multiple aspects of clustering to deal with. However, all of these excluded time waves were within the same developmental stage category as the retained first time wave, thus this removal was unlikely to affect any conclusions regarding developmental stage as a moderator. Last, although literature in all languages was intended to be included in the meta-analysis, it proved to be difficult to interpret some non-Roman alphabet language papers. As such, some effect sizes based on non-Roman alphabet languages may have been excluded, and therefore the pooled effect size may weigh more towards Roman language samples.

Conclusion

Although it was demonstrated that autonomy supportive and psychologically controlling parenting are related, it was also shown that they should be treated as distinct parenting dimensions whose relationship varies depending on developmental stage. Future research should keep these two parenting dimensions separate and should clearly specify the parenting styles that were actually measured, rather than referring to a measure of, say,

"psychological control" as "low autonomy". From a practice standpoint, parenting

interventions may need separate components to increase autonomy support and reduce

psychologically controlling parenting. An increase in autonomy support, especially in

younger ages, is not guaranteed to decrease psychologically controlling parenting, and vice

versa. Developmental stage of youth has to be taken into account to progress a more

sophisticated understanding of parental influences on a young person's development.

Linking Chapter: Meta-analysis and Parenting Perception

From Answering One Problem to Solving Others

Research on autonomy support and psychological control has suffered from confusion about the differentiation of these constructs. Results from studies that do not clarify their use of either dimensions, or do not differentiate between dimensions, are either unclear in what the study actually indicates, or can only conclude something about the absence or presence of psychological control. This may bias conclusions about those parenting styles (e.g., Henry, 2008; Reitman & Asseff, 2010). It is important to be cautious of the assumption that presence of one of the parenting styles equals the absence of the other (Silk et al., 2003). The results found in Chapter 5 clarify that autonomy supportive and psychologically controlling parenting are related but distinct dimensions. It is now clear that, to be able to accurately interpret research on either autonomy support or psychological control, a separate measure has to be used to measure each parenting style. This clarifies one of the issues in research and leaves a few more questions, which could not be answered through moderation tests in Chapter 5. These questions will be examined in the following chapters.

Different approaches to measure parenting did not appear to moderate the relationship between autonomy support and psychological control. Although, results from Chapter 5 may not show that this relationship is directly moderated by measurement approaches, this analysis only informs us about the relative difference between autonomy support and psychological control, not about actual differences. The results of Chapter 5 further rest on an untested assumption that the differences in measurement approaches actually measure the same kind of parenting styles. Indeed, the moderation of the correlation effect size depends on at least factor loading invariance across groups. This invariance is also a requirement

when considering whether measurement approaches moderate the role of parenting in predicting well- and ill-being. This latter aspect will be an important extension of Chapter 5. Finally, both loading and intercept invariance is a requirement for considering mean level differences that are associated with measurement type. It is these underlying measurement assumptions that are critically evaluated in Chapter 6. These are then used as a basis for considering the potential moderating role of parent versus child perceptions and maternal versus paternal parenting in level of endorsement, relationship between autonomy support and control, and the parenting relationship with well- and ill-being.

Chapter 6: Study 2 – Parenting Perception

Difference in Kind, Degree, or Structure: Parenting Perceptions of Youth, Mothers, and

Fathers, and the Relationship with Well-Being

Difference in Kind, Degree or Structure: Parenting Perceptions of Youth, Mothers, and

Fathers, and the Relationship with Well-Being

Parenting is central to the development of youth, affecting both adaptive (e.g., self-esteem, intrinsic motivation) and maladaptive (e.g., depressive symptoms, externalisation) development (Bronfenbrenner & Morris, 2006; Lerner, Rothbaum, Boulos, & Castelling, 2002; Vansteenkiste & Ryan, 2013). Despite substantial research on parenting, issues with measurement of parenting behaviours persist (see Janssen et al., 2015; Locke & Prinz, 2002). I suggest that to fully understand the process of parenting, there is a need to consider potential differences between measures that focus on youth and parent perceptions (Janssen et al., 2015), target of the parenting (e.g., mother, father; Grolnick & Farkas, 2002), and styles of parenting (e.g., autonomy support, psychological control; Vansteenkiste & Ryan, 2013).

A small number of parenting studies have examined the extent that parenting measures are invariant, but they usually focus on only one aspect of invariance, such as invariance across time, between mothers and fathers, or between countries, (e.g., Cheung et al., 2016; see Chapter 7). The current study focuses on a sample with multiple report types (i.e., youth report, parent report), report targets (i.e., mother and father), parenting styles (psychological control, particularly via guilt induction, and autonomy support), and well-being outcomes (depressive symptoms, self-esteem, satisfaction with life, and school burnout). I extend past research by a) taking into account both the youth's and parent's perception of both maternal and paternal parenting; b) exploring the differences in degrees (i.e., latent mean difference) and measurement structure (i.e., latent correlations) between each measurement approach, both within and between autonomy support and psychological control; and c) testing not only whether the parenting measures are equivalent for each measurement approach (i.e., measurement invariance), but also whether the relationship of

parenting with well- and ill-being is moderated by measurement approach (i.e., structural invariance). This is one of few studies that use a single sample with multiple report types, targets, parenting constructs, and well- and ill-being outcomes. Even when multiple measurement approaches are used, measurement equivalence is rarely tested and typically simply assumed. This study will critically evaluate these assumptions and seek to inform future research on how parenting should be measured and how outcomes should be interpreted. Additionally, awareness of possible differences between parents and youth perceptions, regarding mothers and fathers, informs clinical parenting interventions whether mothers', fathers', or even the youth's perception should be targeted.

Parenting Styles

In more recent research, autonomy supportive and psychologically controlling parenting have been two of the most studied parenting styles and have been shown to predict many important developmental outcomes (e.g., Grolnick, Ryan, & Deci, 1991) and are some of the most influential parenting dimensions (e.g., Soenens & Beyers, 2012). Research often uses parenting typologies such as authoritarianism, permissiveness, and authoritative parenting, which consist of a combination of parenting styles (e.g., see Baumrind, 1978; Gray & Steinberg, 1999). However, given that separate parenting styles such as autonomy support and psychological control provide a strong role in predicting specific outcomes, it is important to properly understand these constructs (e.g., Barber, 1996; Soenens & Vansteenkiste, 2005).

Autonomy supportive parenting. Feeling autonomy means to have a sense of volition (Deci & Ryan, 2000). Autonomy support, in turn, refers to the support for a child to be self-initiating and autonomous (Ryan, Deci, Grolnick, & La Guardia, 2006). The importance of the autonomy need is a key component of SDT (Deci & Ryan, 1985). Autonomy refers to choice in one's behaviour, to be able to genuinely agree with external and

internal forces that affect behaviour (Ryan & Deci, 2017). Parents that promote such

volitional functioning encourage their child to take initiative, are willing to take the youth's

perspective, teach the child to act on genuine preferences, provide meaningful choices, and

provide a valid rationale when limited choice is available (Ryan & Deci, 2017; Grolnick et

al., 1991, 1997).

Parents who believe youth generally have a natural tendency towards an autonomous

development and healthy internalisation are more inclined to provide autonomy support

(Joussemet, Landry, & Koester, 2008). Autonomy support specifically relates to adaptive

outcomes, such as adolescent adjustment (Soenens & Vansteenkiste, 2005), greater well-

being during stressful school transitions (see Chapter 7; Ratelle et al., 2005), and academic

achievement (e.g., Grolnick, Ryan, & Deci, 1991). In SDT, the opposite of autonomy is not

dependence, but heteronomy, the feeling of being controlled in one's actions by external

forces (Deci & Ryan, 2000).

Psychologically controlling parenting. Psychological control refers to intrusive

control over youth in which the parent manipulates the youth's thoughts, feelings, and

emotions, and thereby restricting the youth's emotional and psychological development

(Barber, 1986, 2002). From an SDT standpoint, this type of control is likely to undermine the

basic need for autonomy and thus intrinsic motivation, which leads to non-optimal ways of

internalisation (Grolnick et al., 1991; Joussemet et al., 2008). Psychological control consists

of multiple dimensions: shaming, constraining verbal expression, invalidating feelings, love

withdrawal, and guilt induction (Nelson, Yang, Coyne, Olsen, & Hart, 2013). Even though

these dimensions are significantly correlated, they can be statistically differentiated (see

Nelson et al., 2013). It should be noted that psychological control is different from

behavioural control, which refers to clear communication between the parents and youth

about setting expectations and monitoring the youth's behaviour by overseeing set

expectations (Barber, 1996; Barber et al., 2005). Behavioural control refers to the imposition of consistent and developmentally appropriate structure for the child to follow, which may foster healthy development as opposite to the detrimental power assertion that is apparent in psychological control (Barber, 2002; Grolnick, 2003).

Parents may use psychological control when experiencing pressure (Grolnick, 2003). This includes both internal pressure (e.g., worries, anxiety), and external pressure (e.g., marital stress, financial problems; Grolnick et al., 2002; Gurland & Grolnick, 2005). Autonomy support requires time and psychological space that are threatened under pressure. Thus, the use of psychological control may be a more prevalent parenting approach when parents experience a reduction in time and psychological space (Grolnick, 2003). It is also believed that psychological control relates to parents' individual dysfunction and/or dysfunction between the parents (Bradford & Barber, 2005). Such dysfunction may result in situations where the child is the victim of scapegoating by the parents or used as a messenger for communication between the parents (e.g., Bradford & Barber, 2005; Grolnick, 2003).

Psychological control has consistently been shown to worsen adolescent adjustment leading to internalising problems such as anxiety, depressive symptoms, low self-esteem, and externalising problems such as delinquency and aggression (e.g., Barber, Olsen, & Shagle, 1994; Pettit, Laird, Dodge, Bates, & Criss, 2001). Psychological control is especially harmful during adolescence because it threatens the development of emotional and psychological autonomy (Wang, Pomerantz, & Chen, 2007).

Two dimensions of parenting. Early research on parenting domains categorised autonomy support and psychological control as opposing styles on a single dimension (see Schaefner, 1959, 1965). This view on the parenting styles has been applied to research by simply reverse coding psychological control items, with psychological control representing the absence of autonomy support and vice versa (Vansteenkiste & Ryan, 2013). However,

from a theoretical standpoint, parents who are not psychologically controlling do not

necessarily facilitate autonomy (see Barber, Bean, & Erickson, 2002). As discussed before,

autonomy support and psychological control have two different core components. Whereas

autonomy support promotes a youth's sense of self-determination, psychological control

hinders the development of a sense of self (e.g., Barber, 2002; Steinberg, 2005). Both have

distinct effects on youth's development. The first empirical support for the two dimensional

approach to autonomy support and psychological control came from Silk et al. (2003), who

measured autonomy support (albeit conflated with promotion of independence) and

psychological control independently with a large scale factor analysis, and found a small

negative correlation. The small-to-moderate correlation suggested that the parenting

constructs should be measured separately and may represent a quasi-orthogonal dimension

(see Soenens, Vansteenkiste, & Sierens, 2009). Further strong empirical evidence that

autonomy support and psychological control are independent dimensions comes from a meta-

analysis on the relationship between the two parenting approaches which showed an overall

negative moderate-to-large correlation (see Chapter 5). As such, I expect to find a small-to-

moderate negative correlation between autonomy support and psychological control.

Measuring Parenting

Studies use a variety of approaches to measure parenting (see Chapter 5; Soenens,

Vansteenkiste, Duriez, & Goossens, 2006). These approaches include a distinction between

how youth perceive the parenting as opposed to what the parents perceive themselves (i.e.,

report type), and how mothers and fathers approach parenting (i.e., report target). Measures

that differ by report type and target are used interchangeably to measure parenting. Typically

measures often differ only in wording related to report type or target and thus are clearly

aimed at measuring the same latent construct (e.g., Cheung et al., 2016; Soenens,

Vansteenkiste, Luyckx et al., 2006). To be able to compare and contrast parenting regarding

different report types and targets requires that the measures are in fact measuring the same

construct (i.e., measurement invariance). The underlying assumption is that the measures test

for the same variables, though most research fails to critically assess this assumption (Sass &

Schmitt, 2013).

Establishing invariance is critical as interpretability of similar or differential effects of

approaches to measure parenting rely on the typically untested assumption that these all

reflect the same underlying parenting style. Should there not be measurement invariance

between, for example, parent and youth perspectives of autonomy support, it would be

impossible to conclude whether differential effects of each perception on well-being were

because one perspective, say the youth's perspective, was inaccurate, or because the two

measures test fundamentally different aspects of reality.

Maternal and paternal distinctions. A topic that is often overlooked in research on

parenting is a distinction between maternal and paternal parenting styles (Grolnick & Farkas,

2002; Lindsey & Caldera, 2005). There is specifically a lack of research that looks at the

relationships between adolescents and their fathers (Day & Acock, 2004). The lack of

paternal approaches in the developmental literature is a limitation in understanding parenting

behaviour and associated outcomes for adolescents. It is possible that adolescent's unique

interpretation of each parents' behaviour has independent relations to various outcome

variables (Grolnick et al., 1991). Even though recent studies address this gap in knowledge

(e.g., Galambos, Barber, & Almeida, 2003; Lansford et al., 2011), several questions remain,

and an overall lack of findings makes it difficult to develop empirically supported hypotheses

regarding parenting.

Parenting studies that have separate scores for maternal and paternal parenting often

choose between four different approaches (Lansford, Laird, Pettit, Bates, & Dodge, 2011).

First, researchers aggregate the maternal and paternal behaviour to create an averaged

parenting construct (e.g., Galambos et al., 2003; Vansteenkiste et al., 2005). Although this approach increases reliability to the extent that mothers and fathers from the same family act similar, it fails to consider that parents may act dissimilar and may have unique influences on adolescent behaviour. More concerningly, it assumes that measures of parenting behaviour are the same for both mothers and fathers. Second, both maternal and paternal data is analysed separately (e.g., Soenens, Luyckx, Vansteenkiste, Duriez, & Goossens, 2008). Despite the fact that this approach gives a better idea about how different or similar the parents behave, it does not take into account possible independent effects of each parents' behaviour. In addition, given that no invariance testing is conducted in such research, it provides an uncertain basis for comparing studies on mothers and fathers. Third, a score is computed to reflect the discrepancy between mothers' and fathers' approaches to parenting. This score can then be used to analyse the effect of differential parenting approaches (e.g., Nelson, Hart, Yang, Olsen, & Jin, 2006). This analysis approach is mainly used to test the effects of discrepancies between each parent's parenting approach. Fourth, both parents' data are reported separately, but their effects on outcomes are tested simultaneously, as will be done in the current study (see also Bean, Barber, & Crane, 2006). Over and above any of the other analysis approaches, this last approach makes it possible to test assumptions of measurement structure, and from this solid basis determine whether both mother and father have statistically similar or dissimilar influence on important outcomes like well- and ill-being.

From the little research that makes a distinction between maternal and paternal parenting, differences between the two approaches have been found. Mothers tend to show a higher degree of autonomy support and psychological control than fathers, but the parenting approaches are positively correlated (Grolnick et al., 1991; Mageau et al., 2015). Descriptive data from youth's perception of parenting approaches show that youth report more autonomy

support for mothers than fathers. Adolescents also perceive their mothers as using more psychological control than fathers (Barber & Harmon, 2002; Lansford et al., 2011; Luebbe, Bump, Fussner, & Rulon, 2014). Based on this previous research I also expect to find mothers to show a higher degree of autonomy supportive and psychologically controlling parenting than fathers across the different report types.

Even though I expect a difference in perception of maternal and paternal parenting, there are reasons to believe that there are structural similarities between the adolescents' perception of their mothers' and fathers' parenting. Partners in a relationship tend to influence each other, resulting in similarities over time (Luo & Klohnen, 2005). Indeed, parents may adapt each other's parenting styles. Additionally, similarities in parenting styles may come from the fact that parents respond to a common stimulus. Similarities are further supported by research showing positive correlations between maternal and paternal parenting styles (e.g. Gamble, Ramakumar, & Diaz, 2007; Grolnick et al., 1991; Luebbe et al., 2014). Accordingly, I hypothesise that both maternal and paternal approaches positively correlate for both autonomy support and psychological control, and therefore also have similar measurement structures.

Parent and youth perception of parenting. Research on the concordance of parenting perceptions among youth and their parents is essential for understanding parents' influence on their children's behaviour (Janssen et al., 2015). While youth's report of child-rearing behaviour have been argued to be reliable and valid (e.g., Golden, 1969; Sessa, Avenevoli, Steinberg, & Morris, 2001), interest in parental perceptions on parenting have risen. An investigation of parent's perception should lead to a more sophisticated understanding of parental influences, and would help avoid overestimation of relationships between parenting and outcomes such as adolescents' adjustment and the socialisation process (Barber et al., 2005; Lansford et al., 2011; Soenens et al., 2009). There is thus a need

to study autonomy support and control using multiple perspectives to accurately assess

parenting and related outcomes (Grolnick et al., 1991; Schwarz, Barton-Henry, & Pruzinsky,

1985). The current study will look at both youth and parent perceptions of parenting, of both

the mother and the father, to see whether each measurement approach truly results in

measurement of the same kind of parenting with similar relationships to subjective well-

being.

Research with multiple informants can be used to overcome potential rater bias

(Schwarz et al., 1985). Questionnaire reports may suffer from social desirability (Bögel &

Van Melick, 2004). In this regard it has been found that parents put their child rearing

behaviour in more favourable light than their children (Korelitz & Garber, 2016; Schwarz et

al., 1985). Consequently, I expect parents to report higher degrees of autonomy support but

lower degrees of psychological control than youth as this a less favourable approach to

parenting (Barber, 1996; Barber et al., 2005). I further expect to find mean differences and

dissimilarity in the measurement structure between youth and parent perception (specifically

a low positive correlation) of both parenting styles. It is expected that the different report

types may differentially predict well- and ill-being outcomes given previous research shows

youth perceptions are more predictive of outcomes and the biases involved in the perceptions

of youth and their parents (see Boyce et al., 1998).

The Present Study

Parenting approaches such as autonomy support and psychological control have been

shown to have important influence on adolescents, but it is not fully understood how varying

approaches to measure parenting (i.e., report types and targets) matter (e.g., Janssen et al.,

2015), and to what extent these measurement approaches similarly predict parenting

outcomes. It is often assumed that different measurement approaches measure equivalent

kinds of parenting (i.e., measurement invariance). Researchers compare constructs across

data collection methods with the premature—and untested—assumption that the constructs are equivalent (i.e., invariant) between measurement approaches (Sass & Schmitt, 2013). In the current study I will look at how autonomy supportive and psychologically controlling parenting (in particular, control via guilt induction) by both the mother and father varies between youth perception and parent perception. All effects will be examined within a single model, allowing identification of unique effects of the different variables. Measurement invariance was tested to see whether both autonomy support and psychological control are measured as the same latent constructs regardless of measurement approach utilised.

The use of a single model to explore the measurement of parenting of mothers and fathers from the perspective of youth and parents further allowed me to make more detailed inferences about the way measurement approaches differ in degree (i.e., provide a basis for mean level differences) and how the measurement approaches interrelate (i.e., provide an idea about the relative agreement/correlation) both within and between autonomy support and psychological control. It is only possible to make these inferences however, when invariance of the model is established (Vandenberg & Lance, 2000). Invariance, in turn, will not only help confirm findings that are already established (e.g., how autonomy support and control correlate), but also give new insights and a more detailed understanding of parenting (e.g., whether both youth and parent perceive maternal autonomy support as similar). Through structural invariance it is then possible to test whether the relationship between parenting and subjective well- and ill-being (i.e., depressive symptoms, self-esteem, life satisfaction, and school-related exhaustion, cynicism and inadequacy) is moderated by different approaches to measure autonomy support and psychological control.

Hypothesis 1: Measurement Invariance. I hypothesise that autonomy support and psychological control variables are the same kind of variables no matter the report type (i.e.

youth report, parent report) and report target (i.e., mother, father). I expect this invariance to extend to both factor loading invariance (providing a basis for comparing correlations and regression parameters) and intercept invariance (providing a basis for exploring mean level differences).

Hypothesis 2: Mean Differences. I expect the following regarding the degree of the parenting styles if invariance between all the measurement approaches is found:

> **2.1:** Within autonomy and control I expect mothers to rate higher than fathers on both autonomy support and psychological control in line with previous research.

> **2.2:** Because psychological control has more negative connotations I expect autonomy support to be perceived as higher for parents than for youth, and psychological control to be perceived as lower for parents than for youth.

> **2.3:** Between autonomy and control it is expected that autonomy support will be perceived to be endorsed more than psychological control across both report types and target.

Hypothesis 3: Relative Agreement. If invariance between all the measurement approaches is found, I expect the following about the correlation structure:

> **3.1:** Maternal and paternal parenting styles are hypothesised to positively correlate with each other within autonomy and control because parents react to the same stimuli and are found to approach parenting similarly.

> **3.2:** As report types measure the same variables, it is expected that youth and parent report are positively correlated for both mothers and fathers within both autonomy and control.

> **3.3:** Between autonomy support and psychological control I hypothesise that the two parenting styles are negatively correlated for all measurement approaches. I explored

the possibility that there would be significance differences in the size of these

correlations (i.e., does report target or report type moderate this relationship).

Hypothesis 4: Structural Invariance. Assuming measurement invariance is supported, I

expect the structural relationship between autonomy support and control predicting subjective

well- and ill-being (i.e., depressive symptoms, self-esteem, life satisfaction, and school-

related exhaustion, cynicism and inadequacy) to be similar with report targets given that

parents tend to converge in parenting styles. However, I expect youth reports to have a

stronger effect on well- and ill-being than parents reports given youth's perspectives are a

more proximate influence on youth's outcomes than parents' perspectives (see Boyce et al.,

1998).

Method

Participants and Procedure

The student sample for the analysis comes from Finnish schools that participated in

the Finnish Educational Transitions (FinEdu) study. The FinEdu study is a seven-wave

longitudinal follow-up study (2004-2013/2014) of a sample of ninth grade students in Finnish

high schools. The FinEdu research aims to study the educational transition and the choices

that people face after compulsory comprehensive education. A subset of only two schools had

measures for parenting in the first wave of FinEdu, therefore only this subset was used (grade

9, N = 214; 51.9% girls; mean age = 16). Questionnaires were administered during school

hours.

The analysis also used parent reported data. In addition to student data, the first wave

of the FinEdu data also collected parenting data for a select group of measures for both the

mother and the father (mother N = 142, father N = 90; mean age = 46). A single dyad of

parents was taken out of the analysis as this was a dyad of two mothers, making it difficult to

compare results with only heterosexual dyads. Parent questionnaires were sent by mail and taken by the parents at home in their own time.

Measures

       Parenting variables. The autonomy supportive parenting index (see Chapter 7) consisted of items from a modified version of the Child Rearing Practices Report (CRPR; Aunola & Nurmi, 2004; Roberts et al., 1984). Psychological control was measured with an existing subscale from the same measure. The student participants indicated how well each item describes their relationship with their mother and father separately (1 = *Does not fit me at all*; 7 = *Fits me completely*) for the youth perception component of the measure. The autonomy support index is composed of three items that assess autonomy support with items such as: "My mother/father respects my opinions". Reliability of the autonomy support index for the adolescents ranged from .81 to .82. The psychological control scale is composed of four items that assess psychological control, particularly control via guilt induction, with items such as: "If I behave badly or inappropriately, my mother/father clearly shows s/he is disappointed and ashamed". Reliability of the psychological control index for youth on both parents was .77.

       The parent report component of the autonomy support and psychological control variables measured the parents' perception of each parenting style. Mothers only reported perceived maternal parenting, and fathers only reported perceived paternal parenting. The parent perception measures comprised of the same items as for youth perception, but instead items were worded to ask about the parents' own behaviour with items such as: "I respect my child's opinions". Reliability of the autonomy support index for the parents ranged from .63 to .73, and ranged from .76 to .77 for the psychological control subscale.

       Well- and ill- being measures. Well- and ill-being was measured by completing the DEPS depression scale (Salokangas, Poutanen, & Stengård, 1995), a short version of

Rosenberg's Self-Esteem Scale (Rosenberg, 1965), the Satisfaction with Life Scale (Diener,

Emmons, Larsen, & Griffin, 1985), and the School Burnout Inventory (SBI; Salmela-Aro,

Kiuru, Leskinen, & Nurmi, 2009; Salmela-Aro & Näätänen, 2005). On the DEPS depression

scale participants report on the occurrence of 10 types of moods in the past month (1 = *Not at*

all; 4 = *Very much*), with items such as "I have felt all the joy had disappeared from my life".

Reliability of the original DEPS was .86 (Salokangas, et al., 1995), in the current study the

alpha and glb were .90 and .94 respectively. Rosenberg's Self-Esteem Scale comprises of five

items that assess one's agreement (1 = *Completely* disagree; 7 = *Completely agree*) on

acceptance, self-respect, and overall attitude towards oneself with items such as "I think I

have many good qualities". Reliability of the original self-esteem scale ranged from .77 to .88

(Rosenberg, 1965), in the current study the alpha and glb were .77 and .88 respectively. The

Satisfaction with Life Scale consists of 5 items on which participants had to indicate how

much they agree (1 = *Completely disagree*; 7 = *Completely agree*) with statements such as

"For the most part my life is near my ideal". The original Satisfaction of Life Scale's

reliability was .87 (Diener et al., 1985), in the current study the alpha and glb were .85 and

.88 respectively.

Unlike the other measures, the SBI specifically measures school-related ill-being. On

the SBI participants rate how well the nine items describe their school situation (1 =

Completely disagree; 7 = *Completely* agree) with items such as "I feel overwhelmed with my

school work". Subsets of three items from the SBI were each averaged to create subscales of

school-related emotional exhaustion, inadequacy, and cynicism (Salmela-Aro & Näätänen,

2005). Reliability of the original SBI subscales was .80, .80, and .67 for emotional

exhaustion, cynicism, and inadequacy respectively (Salmela-Aro et al., 2009). In the current

study emotional exhaustion, cynicism, and inadequacy showed an alpha of .56, .83, and .75,

and a glb of .60, .84, and .77 respectively. The subscale of emotional exhaustion originally

consists of four items (Salmela-Aro & Näätänen, 2005), however, only three were available

which may have contributed to the low reliability coefficient.

Statistical Analysis

   Confirmatory factor analysis. Confirmatory factor analysis is used to assess whether

a hypothesised measurement structure fits observed data. The current study used a

confirmatory factor analysis model consisting of two parenting styles (i.e., autonomy support

and psychological control), two report types (i.e., youth and parent report), and two report

targets (i.e., mother and father) to test and explore parenting styles and measurement of

parenting. To assess model fit the Tucker Lewis Index (TLI), Comparative Fit Index (CFI),

and Root Mean Square Error of Approximation (RMSEA; Hoyle & Panter, 1995) were used.

A model is seen as excellent fit with both a TLI and CFI of .95 or above, however, values of

.90 or higher is also acceptable (Byrne, 2012). A close-to-excellent fit range for RMSEA is

considered to be .05 or below to .08 or below (Browne & Cudeck, 1993). Latent mean

differences and latent correlations between each parenting style, report type, and report target

were used, creating outcomes for eight latent variables representing the parenting approaches

and each measurement approach (e.g., autonomy support reported by youth about the mother,

psychological control reported by the parent about the father). Full-information-maximum-

likelihood was used to account for missing data, which uses all available information

(Enders, 2010).

   Measurement invariance. Measurement invariance testing is an assumption in

covariance and latent means based models (Meredith, 1993). The first step is the test for

configural invariance, which examines whether the same number and pattern of latent factors

is found among the participants (Meredith, 1993) and whether the model fits well. The

second step, metric invariance of factor loadings, tests whether different responses among

report and parent types reflect a common understanding of the latent variables (Vandenberg

& Lance, 2000). This is done by constraining factor loadings of each report type and target to be equal among each parenting style, and comparing this model to one in which factor loadings are free. Metric invariance is the minimal assumption required for comparing the correlation structure and the regression parameters (see Parker, Marsh, Morin, Seaton, & Van Zanden, 2015). Step three, scalar invariance of intercepts, is tested by constraining intercepts and is a minimal assumption for comparing latent means (Chen, 2008; Parker, et al., 2015). Where full scalar invariance is not supported, partial invariance can be tested by allowing some intercepts to vary (Byrne, Shavelson, & Muthen, 1989; Steenkamp & Baumgartner, 1998).

      Structural invariance. Presuming measurement invariance, structural invariance was tested by simultaneously constraining factor loadings between the different approaches to measure parenting styles and constraining regression parameters in a model that tests the relationship between parenting styles and well- and ill-being. This was tested separately for autonomy support and psychological control, for each outcome, with youth's gender controlled for in every model. The first structural invariance model (S0) consisted of the full SEM with factor loadings constrained to be equal across report type and target with regression parameters allowed to vary across each relationship. This model was then compared to a model that increasingly held additional regressions constant across report type and target of the parenting styles, up to a model where all regression parameters were held constant (S7). See Table 6.1 for a detailed description of these increasingly constrained structural invariance models.

      Evidence of invariance comes from comparing each baseline model with good fit to alternate nested models with equivalent increasing constraints. Structural invariance can be concluded when model S7 (i.e., all regression parameters constrained) fits well and is not significantly different from model S0 (i.e., all regression parameters unconstrained).

Table 6.1

Overview of the Constraints for each Structural Invariance Model

Structural Invariance Model	Parent Report Mother	Parent Report Father	Youth Report Father	Youth Report Mother
S0	free	free	free	free
S1	free	free	constrained$_a$	constrained$_a$
S2	constrained$_a$	constrained$_a$	free	free
S3	constrained$_a$	free	constrained$_a$	free
S4	free	constrained$_a$	free	constrained$_a$
S5	constrained$_a$	constrained$_a$	constrained$_b$	constrained$_b$
S6	constrained$_a$	constrained$_b$	constrained$_a$	constrained$_b$
S7	constrained$_a$	constrained$_a$	constrained$_a$	constrained$_a$

Note: free = measurement approaches free from constraints, constrained = measurement approaches that are constrained within each model, with constraint pairs indicated with $_a$ and $_b$. S0 = free regression parameters, S1 = regression parameters of youth report constrained to be equal, S2 = regression parameters of parent report constrained to be equal, S3 = regression parameters of report on mother constrained to be equal, S4 = regression parameters of report on father constrained to be equal, S5 = both regression parameters of youth and parent report were separately, S6 = both regression parameters of report on mother and father constrained separately, S7 = regression parameters of report type and target all constrained to be equal.

Comparisons are made with the corrected difference between chi-square values of the two models using the formula from Satorra and Bentler (2010).

Results

Measurement Invariance

I first explored measurement invariance across response types (i.e., parents or youth) and response targets (i.e., mothers or fathers) simultaneously. This allowed exploration of not just invariance across response type and target but also across the interaction between them. Configural invariance (M1) test results show that the model had a good fit, suggesting that mother and father, and youth and parent perceptions, of autonomy support and psychological control had the same underlying structure (see Table 6.2). The metric invariance (M2) test showed evidence of invariance with little differences between fit of models M1 and M2 ($\Delta \chi^2$ (15) = 17.27, *ns*; ΔCFI = .00, ΔTLI = .01, ΔRMSEA = .001). This provides evidence that the constructs of autonomy and control were similarly interpreted across response types and

targets (i.e., varying measurement approaches measure the same latent construct). Metric

invariance allowed me to make inferences about correlations and regression paths in relation

to later hypotheses.

Table 6.2

Fit Indices for Parenting Model CFA

Invariance Model	χ^2	*df*	CFI	TLI	RMSEA
M1	427.05***	280	.94	.91	.050
M2	444.32***	295	.94	.92	.049
M3a	524.40***	310	.91	.89	.057
M3b^	473.60***	307	.93	.91	.051
M4	555.47***	313	.89	.87	.060

Note: M1 = no constraints; M2 = constrained factor loadings between time waves and report types where relevant; M3a = constrained all intercepts (full invariance); M3b = constrained all intercepts except for one control item (partial invariance); M4 = constrained mean structures; ^Best model.
* $p < .05$, ** $p < .01$, *** $p < .001$.

When considering item intercepts, there was weaker evidence of scalar invariance

when considering chi-square values, TLI values, and CFI values; though the RMSEA and

statistical test did suggested invariance (M3a; $\Delta \chi^2$ (15) = 80.93, $p < .001$; ΔCFI = .03, ΔTLI

= .03, ΔRMSEA = .008). Inspection of modification indices identified a single problematic

item in the psychological control subscale ("My mother/father often reminds me how much

s/he has sacrificed for me"). This indicated that separate to psychological control itself, youth

endorsed this item more (with an intercept of -1.71 for mothers and -1.59 for fathers) than

parents did, especially about mothers (with an intercept of -2.81 for mothers and -2.18 for

fathers). Consequently, partial invariance (M3b) was tested for, freeing the intercept from

only the problematic item. The partial invariance test resulted in partial scalar invariance with

little differences between models M2 and M3b across all fit criteria ($\Delta \chi^2$ (12) = 29.28, $p <$

.01; ΔCFI = .01, ΔTLI = .01, ΔRMSEA = .002). Thus, it was possible to make valid

inferences about differences in latent means.

Latent Mean Differences

Invariance in latent means was considered next by comparing model M3b to model

M4. There was very little evidence of invariance in latent means indicating that significant

differences in reported autonomy and control across response types and/or targets could be

identified ($\Delta \chi^2$ (6) = 81.87, p < .001; ΔCFI = .04, ΔTLI = .04, ΔRMSEA = .009). Follow-up

tests were then conducted to explore where those differences were located. The main findings

of these follow-up tests are reported below, the rest of the results can be found in the

supplementary material.

Mean differences in parenting styles by measurement approach. Because scalar

invariance was found, albeit partial, it was possible to make inference regarding mean

differences. All latent mean differences are reported in Figure 6.1. Overall there was a

significant difference between mothers' and fathers' parenting means (d = 0.22, p < .00). I

then further unpacked these mother and father differences by distinguishing between parent

report and youth report. For parent perception alone, the difference was only found between

perceptions of mothers' and fathers' autonomy support (d = .31, p < .01), not for

psychological control (d = 0.03, ns). Regardless of this parent perceived difference between

mothers' and fathers' autonomy support, the overall differences between mothers and fathers

were driven by perceptions of youth (d = 0.30, p < .00) not by perceptions of parents (d = .14,

ns). When looking at youth report alone it was found that youth perceive their mothers to be

both more autonomy supportive (d = .25, p < .00) and psychologically controlling (d = .35, p

< .00) than their fathers.
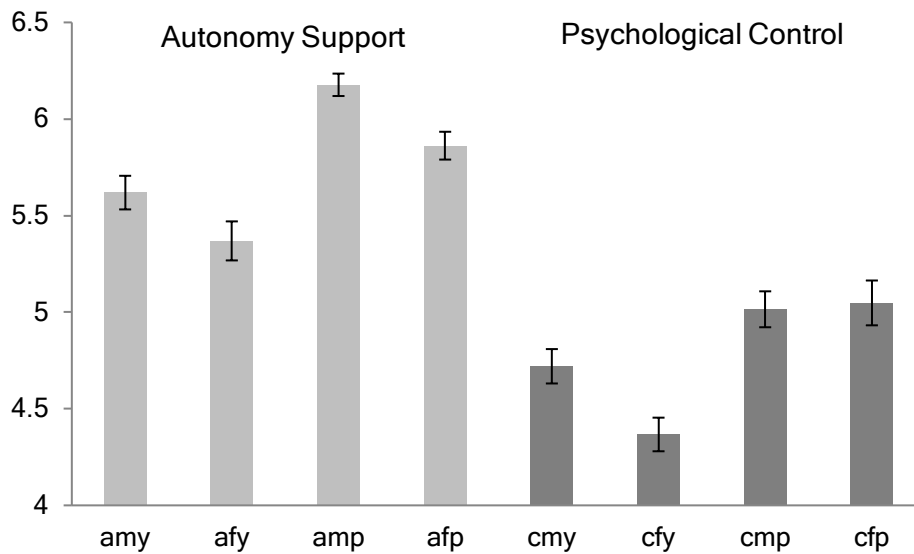
Figure 6.1. Mean comparison of autonomy supportive and psychological controlling parenting of mothers and fathers from youth and parent perspective. amy, autonomy of mother youth report; afy, autonomy of father youth report; amp, autonomy of mother parent report; afp, autonomy of father parent report; cmy, control of mother youth report; cfy, control of father youth report; cmp, control of mother parent report; cfp, control of father parent report.

Figure 6.1 also indicates that there is a significant difference between youth and parent reports across both parenting styles, for both parents. Overall youth perceive their parents to be both less autonomy supportive and psychologically controlling than the parents themselves do ($d = 0.51, p < .00$). Mean differences between parents and youth when considering individual scores range from $d = 0.30, p < .01$ for perceived maternal psychological control, to $d = 0.68, p < .00$ for perceived paternal psychological control.

Mean differences between parenting styles. Figure 6.1 shows that there was a significant latent mean difference between autonomy support and psychological control regardless of report type or target. Autonomy supportive parenting showed higher levels than psychological controlling parenting with an overall mean difference of $d = 0.97, p < .00$. This large difference between autonomy support and psychological control is maintained for every combination of report type and target.

Latent Correlations

        Correlations in parenting styles by measurement approach. Overall mothers' and fathers' parenting styles have a significant moderate positive correlation, $r = .25$, $p < .00$. From the correlation matrix (see Table 6.3), it can be seen that this moderate overall correlation is due to a small relationship between maternal and paternal perceptions for autonomy support ($r = .09$, *ns*). Parent perception of psychological control were considerably higher ($r = .37$, $p < .05$). In striking contrast, youth perceived a large positive correlation between maternal and paternal parenting for both autonomy support ($r = .65$, $p < .00$) and psychological control ($r = .80$, $p < .00$). Put simply, where parents saw relatively little agreement in their parenting style, their children saw considerable agreement. Not surprisingly given the above results, the overall correlation between youth and parent report was small to moderate ($r = .17$, $p < .01$). Broken down by variable and parent type, significant correlations between youth and parent report were only found for maternal autonomy support ($r = .29$, $p < .01$) and psychological control ($r = .40$, $p < .00$), but not for paternal autonomy support ($r = .21$, *ns)* and psychological control ($r = .15$, *ns*). Taken together, there tended to be notable disagreement between mothers and fathers and between parents and youth, particularly in relation to fathers and youth.

        Correlations between parenting styles. Overall scores of autonomy support and psychological control were weakly, but surprisingly, positively correlated ($r = .17$, $p < .01$). A moderate positive correlation was maintained when report type and target were considered separately, with autonomy support and psychological control correlations for specific report types and parents ranging from ($r = .18$ to $.29$). When further separating report type and target it was found that there was only no relationship between the two parenting styles for youth perceptions regarding the mother ($r = .09$, *ns*; see supplementary material for detailed latent correlation results). All other correlations were significant.

Table 6.3

Latent Correlation Matrix with Standard Error of Autonomy Support and Psychological Control between Varying Report Types and Targets

Report Target and Type	Parenting Style	Mother Youth		Father Youth		Mother Parent		Father Parent	
		Autonomy Support	Psychological Control	Autonomy Support	Psychological Control	Autonomy Support	Psychological Control	Autonomy Support	Psychological Control
Mother Youth									
	Autonomy	1.00							
	Control	.09 (.11)	1.00						
Father Youth									
	Autonomy	.65*** (.09)	.17 (.10)	1.00					
	Control	.22* (.10)	.80*** (.06)	.25* (.10)	1.00				
Mother Parent									
	Autonomy	.29** (.11)	.22 (.12)	.17 (.12)	.27 (.11)	1.00			
	Control	.06 (.11)	.40** (.10)	-.04 (.10)	.40** (.10)	.45** (.09)	1.00		
Father Parent									
	Autonomy	.16 (.14)	.04 (.16)	.21 (.14)	.04 (.17)	.09 (.15)	.08 (.14)	1.00	
	Control	.17 (.12)	.16 (.14)	.03 (.12)	.15 (.14)	.22* (.12)	37* (.14)	.41* (.15)	1.00

* $p < .05$, ** $p < .01$, *** $p < .00$

Structural Invariance

After establishing measurement invariance and differences in means and correlational structure between measurement methods of autonomy supportive and psychological controlling parenting I further tested structural invariance of the different measurement methods predicting subjective well- and ill-being (see Table 6.4 for detailed results). The effect sizes in Table 6.4 are based on pooled standard errors obtained from the different measurement approaches (depending on which invariance model was used), by taking the average of the parameter-specific standardisation coefficients obtained from R (see, for example, Marshall, Parker, Ciarrochi, & Heaven, 2014). Overall, there was strong consistency in the effects of autonomy support and psychological control on well- and ill-being regardless of report type or target. These results suggested that autonomy support was a significant predictor of almost all well- and ill-being factors, while psychological control was a weak and typically non-significant predictor (though see moderation evidence below).

Several instances of non-invariance were observed for the regression of depressive symptoms and life satisfaction on autonomy support, and the regression of cynicism and inadequacy on psychological control; suggesting moderation by report type or target. These models fit best when constraining both regression parameters of youth and parent report separately, suggesting that the relationships in these models were moderated by report type. The relationships of parenting with well- and ill-being for these variables were only significant when parenting was measured from the perception of youth ($\beta = -.31$, depressive symptoms regressed on autonomy; $\beta = .24$, life satisfaction regressed on autonomy; $\beta = .35$, inadequacy regressed on control). It was only for the relationship between psychological control and cynicism that this relationship was significant for the parents' perspective ($\beta = .35$). Findings of such moderation showed that non-invariance of all measurement

Table 6.4

Standardised Beta Coefficients of the Effects of Parenting Styles from Varying Report Types and Targets on Well-being Outcomes Controlling for Gender

	Parent Report Mother	Parent Report Father	Youth Report Mother	Youth Report Father	Structural Invariance Model Utilised	Δ S0
Autonomy Support						
Depressive Symptoms	.04	.04	-.31***	-.31***	S5	$\chi^2(2) = 0.33$
Self-esteem	.13**	.13**	.13**	.13**	S7	$\chi^2(3) = 0.72$
Life Satisfaction	-.05	-.05	.34***	.34***	S5	$\chi^2(2) = 3.40$
Emotional Exhaustion	-.04	-.04	-.04	-.04	S7	$\chi^2(3) = 2.34$
Cynicism	-.14***	-.14***	-.14***	-.14***	S7	$\chi^2(3) = 5.23$
Inadequacy	-.10*	-.10*	-.10*	-.10*	S7	$\chi^2(3) = 1.14$
Psychological Control						
Depressive Symptoms	.13^	.13^	.13^	.13^	S7	$\chi^2(3) = 5.08$
Self-esteem	-.05	-.05	-.05	-.05	S7	$\chi^2(3) = 4.59$
Life Satisfaction	-.00	-.00	-.00	-.00	S7	$\chi^2(3) = 4.58$
Emotional Exhaustion	.05	.05	.05	.05	S7	$\chi^2(3) = 1.60$
Cynicism	-.14*	-.14*	.06	.06	S5	$\chi^2(2) = 4.81$^
Inadequacy	-.13	-.13	.15**	.15**	S5	$\chi^2(2) = 2.44$

Note: S0 = free regression parameters, S5 = both regression parameters of youth and parent report constrained separately, S7 = regression parameters of report type and target all constrained to be equal.

^ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .00$

approaches simultaneously (i.e., non-invariance for model S7) was driven by the variation in report type measurements approaches.

Overall, autonomy support was related to all well-being variables except emotional exhaustion, and the relationship with depressive symptoms and life satisfaction was only found with the youth's perspective of parenting. Psychological control was only related to cynicism, inadequacy, and near-significantly related to depressive symptoms. However, the relationship with cynicism was only found for the parents' perspective, while the relationship with inadequacy was only found for the youth's perspective. A zero-order correlation matrix of all variables can be found in the supplementary material.

Discussion

The current study utilised invariance testing to explore whether parenting constructs were similar when varying measurement by report types (i.e., youth or parent perceptions) and report targets (i.e., maternal or paternal parenting). Evidence suggested varying measurement approaches were indeed invariant in both item loadings and intercepts. This finding was used as a basis to consider mean differences, correlational similarities and differences, and to explore whether the relationship between parenting styles and well- and ill-being (i.e., depressive symptoms, self-esteem, life satisfaction, and components of school burnout) varied as a function of report type or target. Latent mean difference analyses confirmed that parents report a significantly greater degree of autonomy supportive than psychologically controlling parenting and mothers rate higher on both parenting styles than fathers. However, surprisingly, youth rated their parents not only as showing a lower degree of autonomy support than parents themselves did, but also a lower degree of psychological control. Latent correlation analysis unexpectedly revealed that autonomy support and psychological control were positively correlated; albeit at a very low level. As hypothesised, both maternal and paternal parenting and youth and parent perception, of both parenting

styles, were positively correlated. Parenting style was shown to be an important predictor of

well- and ill-being but this relationship was, for some variables, dependent on report type.

Specifically, the relationship of autonomy support with depressive symptoms and life

satisfaction, and the relationship of psychological control with cynicism and inadequacy were

moderated by report type.

Does Measurement Approach Affect Parenting Construct?

Parenting studies often simply compare parenting constructs collected through a

variety of approaches assuming that they are all measuring parenting in the same way (Sass

& Schmitt, 2013). Yet invariance between varying report types and targets to measure

parenting has not been tested before in a comprehensive manner. The study that came closest

to examining this issue was from Janssen et al. (2015), who found configural and metric

invariance for youth (not broken down by parent type), mother, and father report. I too found

configural and metric invariance for youth and parent perceptions for autonomy support and

psychological control, but additionally found this for mothers' and fathers' parenting from

the youth's perspective. This indicates that the kind of parenting style reported has a similar

structure when administered to youth or parent and reported about mothers or fathers, and

that research which compares and contrast parenting by report type or target is likely based

on a solid foundation (though future research will need to test such invariance for

themselves).

Unlike Janssen et al. (2015) I did find evidence of invariance between intercepts (i.e.,

scalar invariance). However, full scalar invariance was only supported by some measures of

fit. Nonetheless, strong and consistent support for partial invariance was found. Partial

invariance was achieved by freeing intercepts related to the psychological control item "My

mother/father often reminds me how much s/he has sacrificed for me". Distinct from any

differences due to distinctions in report types and targets for psychological control, this item

specifically, was endorsed more by youth than their parents, especially compared to the

mothers' perception. Parents may be less likely to admit to reminding their child how much

they have sacrificed for them than youth themselves would. This is therefore an item that may

be uniquely prone to reporter bias, again demonstrating that it is important to note where

parent and youth perceptions disagree.

Did the Degree of Parenting Styles Differ?

Both youth and parents agreed that mothers and fathers displayed more autonomy

support than psychological control. This is a positive finding as autonomy support is known

to facilitate a healthy development, especially compared to psychological control (Steinberg,

2005). Mothers were seen by themselves and their children to be more autonomy supportive

than fathers. However, there was divergence in views of parents and youth on the use of

psychological control. Mothers and fathers did not differ in the levels of psychologically

controlling parenting they reported, while youth saw their mothers as most psychologically

controlling. Previous research has indeed reported mothers to be both more autonomy

supportive *and* psychological controlling than fathers (Lansford et al., 2011; Luebbe et al.,

2014). However, the current study suggests that difference may only be apparent from the

youth's perceptions. It is possible that this is only perceived for mothers because, regardless

of the slowly changing paternal role, mothers may still be the dominant caregiver and thus

spend more time with the child to express a range of parenting styles.

Unlike what is found in previous research (e.g., Korelitz & Garber, 2016), parents not

only perceived themselves as significantly higher on autonomy support than youth did, but

also on psychological control. The measure of psychological control that is used in this

chapter, one that centres more around guilt-induction, may be perceived as a more positive

type of control like behavioural or firm control, in which case the finding would be consistent

with previous literature. Such literature has found that more positive types of control tend to

show relative agreement with autonomy support (for an example of this see Schwarz et al., 1985). Future research should investigate the extent that parents and youth value each type of control by asking both parents and youth how effective each type of control is perceived to be.

Was there Relative Agreement within Parenting Styles?

While youth perceptions of parenting styles indicated consistency in parenting style for their mothers and fathers, this was not found for the parents' own perception. Previous research shows that maternal and paternal parenting styles are positively related (Grolnick et al., 1991; Luebbe et al., 2014), but this has only previously been tested for youth report. In the current study psychological control from the mothers' and fathers' perspectives were moderately correlated; though still not as strongly related as from the youth's perspective.

There was an overall positive but weak relationship between youth and parent perception. This low positive correlation is consistent with previous findings (e.g., Cheung et al., 2016). The current study suggests that the biggest difference is between fathers and their children, with perceptions being essentially uncorrelated. There is research that sees divergence of youth and parent perceptions on parenting as an indicator of the relationship between the parent and youth (Maurizi, Gershoff, & Aber, 2012). Low concordance for paternal parenting may be an indication of fathers still being less involved with parenting than mothers regardless of the father's rise in parenting involvement and thus both youth and parents have less material (in terms of parenting interactions) to reliable determine overarching parenting styles.

The relationship between parenting styles. A positive small—but significant— relationship was found between autonomy support and psychological control regardless of report type or target. This is surprising given that theory would strongly contend that these factors should be negatively correlated (see Chapter 5; Barber, 1996) and in fact some

research would suggest they should have a perfect negative correlation (Schaefer, 1959).

Nevertheless, the correlation between autonomy support and psychological control has been

demonstrated to vary by the type of control that is being measured (e.g., Gonida & Cortina,

2014; Kim, Schallert, & Kim, 2010; Prout, 2015) and the culture it is being measured in (e.g.,

Sher-Censor, Parke, & Coltrane, 2011).

Since the current study used a Finnish sample, it is possible that psychological control

concurs more alongside autonomy support in Finland than in other countries, possibly

because it is valued more. Other countries have shown this pattern of valuing controlling

parenting (see Sher-Censor et al., 2011). However, a previous study using a Finnish sample

has shown a negative relationship between autonomy support and psychological control (see

Miklikowska & Hurme, 2011).

The psychological control scale used in the current study has been validated (see

Aunola & Nurmi, 2004; Aunola, Ruusunen, Viljaranta, & Nurmi, 2015). However, the items

in the scale weigh more towards guilt induction than other aspects of psychological control

(e.g., love withdrawal, shaming, invalidation of feelings; Barber, 1996). Studies that focus on

guilt induction as a parenting strategy have shown that effects associated with guilt induction

are often found to be less negative than more explicit and harsher types of psychological

control (e.g., Chen, Soenens, Vansteenkiste, Van Petegem, & Beyers, 2016; Nelson et al.,

2013; Rote & Smetana, 2017). It is possible that items relating to the other aspects of

psychological control may account for the negative relationship with autonomy support that

was not observed here. This may also account for why psychological control in this study was

such a weak predictor of well- and ill-being in contrast to previous research (e.g., Barber &

Harmon, 2002; Soenens et al., 2008). Taken together, an intriguing research question may be

developed that different facets of psychological control may differ in level of harm to youth

development. Clearly, however, more research in this area is needed.

Did Measurement Approach Affect Structural Equivalence?

Although research is quite divided on the matter, on one hand many studies report that both mothers and fathers affect youth outcomes similarly (e.g., Bean & Northrup, 2009; Costa et al., 2015), while on the other hand studies demonstrate that different effects between youth and parent perceptions are assumed to be a result of reporter biases and effects (e.g., Cheung et al., 2016; Rueth et al., 2017). Most of this research, however, is based on measures without clear evidence of measurement invariance; thus, until now there has been little basis for making such comparisons. Overall it was found that autonomy support was consistently significantly related to both well- and inversely to ill-being; with the exception of emotional exhaustion. As noted above, there was relatively little evidence of a relationship between parental psychological control and well-being. Further, the only ill-being variables related to psychological control, cynicism and inadequacy, were school-related rather than general ill-being. It is possible that the guilt induction component of psychological control is specifically predictive of school-related ill-being.

While it was found that the majority of relationships did not differ by report type or target, there was evidence that some of these relationships were moderated. In particular, the relationship of autonomy support with life satisfaction and depressive symptoms, and psychological control with cynicism and inadequacy, appeared to be moderated by report type. The moderation by youth versus parent perceptions is consistent with previous research (e.g., Bögels & Van Melick, 2004; Schwarz et al., 1985) and structural invariance between maternal and paternal parenting was likely found because one parents' behaviour is contingent on how the other parent behaves (Lansford et al., 2011). As expected, the effect of youth's perceptions mostly had a much stronger influence on well- and ill-being than did parent perceptions, where moderation by report type was found. There was one exception; it was parents' perception of psychological control that was related to school-related cynicism,

not youth perception. In fact, this relationship was negative, meaning that more psychological

control perceived by parents was related to less school-related cynicism in youth. This

finding seems rather counterintuitive, there is thus a need for supporting evidence before

conclusive claims can be made.

Indeed, the results are mostly consistent with the view that youth's perceptions of a

given context are more reliable predictors of a given outcome than the context itself. As such,

it is important that future research focuses on the youth's perception of parenting when

examining parenting effects. This further means that clinical parenting interventions should

not only target the parents' approaches, but also include the youth's perceptions through wide

scale family counselling. Of course, it remains important to further pursue a better

understanding of the difference between the two perceptions.

Limitations

This study helped resolve several issues in parenting research by investigating

measurement approaches to parenting in a level of detail that has not been done before. In

particular, I have clarified the underlying measurement assumptions that parenting research

relies on and put them to the test. Notwithstanding these strengths, readers should be aware of

several limitations. The sample was sufficiently powered for the analysis but there is a

potential sampling bias. There was not as much data available for the parents as there was for

their children. Only 66.4% of the mothers and 42.1% of the fathers provided responses. It is

possible that parents only responded when family relationships were good, the study

outcomes may therefore only be applicable to parenting for healthy families. Although

appropriately sized for the analyses used, the sample was not big enough to put both

parenting styles in a single model when testing for structural invariance. I had to choose

between using autonomy support and psychological control in a single model or using latent

variables when testing moderation effects of the relationships with well-being. The latter

approach was chosen as the use of latent variables was thought to lead to more precise results.

Additionally, as discussed above, it is possible that psychological control was too narrowly focused on guilt induction. This however, may have demonstrated findings that are worth to pursue. The guilt induction focused psychological control showed a positive relationship with autonomy support and did not predict well- and ill-being as hypothesised. It is thus possible that psychological control is qualitatively different from guilt induction as guilt induction does not appear to have the same effect as the other components of psychological control. While this suggested interesting hypotheses, future research may need to consider a broad conception of psychological control (e.g., Barber, 1996) or distinguish between the constituent parts of psychological control.

Conclusion

The current study provides good evidence for the way parenting research should handle varying approaches to the measurement of parenting, specifically the variety in report types (i.e., youth and parent perceptions) and targets (i.e., maternal and paternal parenting). The measurement invariance found in this study provides strong evidence that the same kinds of parenting are measured regardless of variety in measurement approaches. Differences in degrees and correlations of measurement approaches within and between autonomy support and psychological control were mainly carried by distinctions in youth and parent perceptions. Structural invariance showed that autonomy support and psychological control similarly relate to well- and ill-being outcomes for reports on mothers and fathers. This was not consistently the case for report types however. Even though there were clear similarities between each measurement approach, distinctions between youth and parent perceptions moderated a few relationships between parenting and well- and ill-being. Future studies may consequently not have to make a distinction between mothers and fathers when investigating

healthy families. Additionally, clinical parenting interventions should not only target parents but take a family approach, to see whether the potential problems lie on the level of the parents, youth, or perhaps both. Because youth perception appeared to be a better predictor of well-being it is important for parenting interventions to not only focus on the parents' but also on youth's perception of parenting. Research has to clearly distinguish between youth and parent perceptions when making conclusions about parenting, and further explore how to obtain the truest estimation of parenting between the perceptions of both youth and one of their parents.

Linking Chapter: Parenting Perception and Educational Transition

From Answering Questions to Putting the Answers into Practice

Research has had to pay attention to how the concept of parenting has been measured. This has forced researchers to choose between the costly all-encompassing approach of using multiple report types (e.g., youth and parent perception) and targets (e.g., maternal and paternal parenting) to measure parenting styles (e.g., Cheung et al., 2016), or use the single measurement approach with the risk of coming to a potentially inaccurate or incomplete conclusion. To be able to come to a meaningful conclusion regarding parenting and related outcomes it is important to have established whether varying measurement types and targets measure the same concept, and correlate with outcomes in a similar manner. Chapter 6 demonstrated that different measurement approaches to autonomy supportive and psychologically controlling parenting do indeed measure the same kinds of parenting. The study further showed that there is structural equality with well- and ill-being, but only between maternal and paternal parenting. Measurement of parenting from the youth's and parents' perception moderated the relationship with some subjective well- and ill-being variables reported by the child. The results generally suggested that youth's perspective of parenting was a stronger predictor of well- and ill-being than parents' own perspectives. With the results of Chapter 6 research I thus extend this research by using longitudinal data to consider the degree to which youth's perspectives of mothers' and fathers' autonomy support predict changes in well- and ill-being at important points in youth's development.

Educational transition is a context in which a young individual actively takes part. This context is influenced by the youth's family and the two schools which the transition

takes place between (Ahtola et al., 2012). Bronfenbrenner (1979) has clearly argued that social systems such as the parent-child relationship have to be studied in context. Furthermore, educational transitions provide natural experiments in which contexts often change qualitatively. Thus, understanding how young individuals maintain well-being while traversing such transitions is an essential research area; providing insight into how parents help youth adjust to changing demands and possibilities that emerge in new developmental contexts (Zarrett & Eccles, 2006). Additionally, Chapter 7 takes into account the need to consider adjustment of the participants from a more developmental life-span perspective that includes multiple changes in contextual affordances and constraints (Bronfenbrenner & Morris, 2006) by testing parenting effects across three major educational transitions. The results of Chapter 6 enable an applied approach in Chapter 7. Educational transitions make for an excellent context to verify findings from the cross-sectional study of Chapter 6 as mothers and fathers may be able to support their children through educational transitions using autonomy need support.

Chapter 7: Study 3 – Educational Transition

The Link between Perceived Maternal and Paternal Autonomy Support and Adolescent Well-Being across Three Major Educational Transitions

Note: An adaptation of this chapter has been published in Developmental Psychology.

Duineveld, J. J., Parker, P. D., Ryan, R. M., Ciarrochi, J., & Salmela-Aro, K. (2017). The link between perceived maternal and paternal autonomy support and adolescent well-being across three major educational transitions. *Developmental Psychology, 53*, 1978-1994. doi: 10.1037/dev0000364

The Link between Perceived Maternal and Paternal Autonomy Support and Adolescent Well-

Being across Three Major Educational Transitions

One of the many developmental tasks navigated by youth and their parents is

educational transition (e.g., transition into high school, post high school transition; Dietrich &

Salmela-Aro, 2013; Salmela-Aro, 2009). Educational transitions are focal points for

development and often coincide with developmental tasks in a number of life domains.

Understanding how young people navigate these changes, while maintaining mental health

and well-being, is a priority area of research (Zarrett & Eccles, 2006). Parents can support

young people in educational transitions by providing resources and psychological need

support (Ryan & Deci, 2017). Such support would lead to greater resilience through greater

coping and adaptive emotional regulation strategies (see Vansteenkiste & Ryan, 2013).

Findings of a variety of developmental contexts indicate that parental autonomy support and

parental involvement predicts adaptive outcomes for children, such as school achievement

and well-being (e.g., Dietrich, Kracke, & Nurmi, 2011; Grolnick & Ryan 1989; Guay,

Senécal, Gauthier, & Fernet, 2003; Ryan & Deci, 2017; Salmela-Aro & Little, 2007). Periods

of a heightened number of developmental tasks, such as educational transitions, are events

which trigger the need for increased responsibility and independence (Zarrett & Eccles,

2006), autonomy support before the transition thus may prepare children for this increase

allowing them to flourish. However, only a small amount of research has been conducted on

the role of parental supports in educational transitions (see Grolnick, Kurowski, Dunlap, &

Hevey, 2000; Ratelle, Guay, Larose, & Senécal, 2004), and little of this research takes into

account bidirectional influences (i.e., co-regulation; Dietrich, P. Parker, & Salmela-Aro,

2012).

Here I will investigate whether autonomy supportive ties can protect and/or enhance well-being for all major educational transitions of high school. Inspired by the work on secondary data analysis by Elder, Pavalko, and Clipp (1993), I utilize multiple existing longitudinal databases of Finnish young people. These databases help to consider the role of autonomy supportive parenting for the transition into middle school, transition into high school, and transition from high school.

Research on transition is important given major developmental tasks at educational transitions generally require an increase in independence (Zarrett & Eccles, 2006). Autonomy support prepares young people for this enhanced independence and consequentially promotes flourishing. Having multiple databases at my disposal allows to do what no research on autonomy supportive parenting has been able to do before in a single study; a) articulate the degree to which autonomy supportive parenting is important across all three transitions surrounding high school, b) consider whether autonomy support from mothers and fathers differ in strength and exert equal influence at the different transitions, and c) examine whether these effects are bidirectional, making it possible to see not only how adolescents react to their parents, but also how parents may change their parenting approach according to how their child is functioning. This study will test the extent that parents can improve their child's experience of a successful transition, which may be especially helpful for children who are at risk of unsuccessful transitions. Additionally, the examination of bidirectional effects will provide further understanding of maternal and paternal co-regulation mechanisms (Dietrich et al., 2012) across three educational transitions.

Educational Transitions and Well-being

   The potential issues. High school provides an important developmental context for adolescents (Eccles, 2004). During this time adolescents face both the largest number, and most wide-ranging set of developmental tasks with critical implications for life-long

development (e.g., Dietrich et al., 2012; Zarrett & Eccles, 2006). Educational transitions represent time points at which many developmental tasks occur at once and are, as a result, associated with a significant increase in vulnerability of the psychological, social, and intellectual well-being of students. These vulnerabilities include negative effects on students such as increased stress, decreased self-esteem, and reduced effort (e.g., Litalien, Lüdtke, P. Parker, & Trautwein, 2013; Vasalampi et al., 2010).

Youth must deal with changes in the organizational and social structure of the educational setting for each educational transition. School may become less personal, and peer networks may change for both the transition to middle school and high school (Eccles, 2004; Frey, Hirschtein, Edstrom, & Snell, 2009; Midgley, Middleton, Gheen, Kumar, 2002). For some students these changes provide too much stress, compromising academic and emotional functioning (e.g., Salmela-Aro, Kiuru, & Nurmi, 2008). The social change, in combination with concern about social acceptance, often causes a loss of self-esteem, decrease in academic performance, and rising anxiety and depression levels (Akos, 2006; Marston, 2008).

Although the middle and high school transitions seem quite similar, the middle school transition is a relatively minor transition in Finland, although similarly associated with social changes, it has fewer implications for the future of an individual. The high school transition in Finland can be more stressful as it is additionally associated with educational choices that are most critical in directing an individual's further education and career trajectory (Malmberg, 1996). The stress of choices that impact the future is akin to that of the post high school transition. Similar changes in peer groups take place with the post high school transition however, leading to an even more depersonalized educational setting where greater independence is required, or employment where there are significant changes to the quantity and quality of social relationships (Cohen, McCabe, Michelli, & Pickeral, 2009; Midgley et

al., 2002). Although middle school transition may not be associated with important career choices the middle-, high school, and post high school transitions are still quite similar as the effects come down to the same issues. The social environments and required degrees of independence suddenly change, and when not appropriately prepared for this, may lead to declines in well-being.

Consideration of the positive side. While problems with well-being triggered by educational transitions are of concern, many youth handle educational transitions well, not only experiencing no decline in well-being but even an increase (Litalien et al., 2013; P. Parker, Lüdtke, Trautwein, & Roberts, 2012). Indeed, successful transition eases feelings of distress, resulting in a sense of well-being which may lead to better outcomes for developmental tasks (Eccles & Midgley, 1989). Well-being is important for the quality of our lives, cognitive capacity, physical health, and social productivity over the life course (Huppert, 2007), and so successful educational transition is an important concern.

In the current study well-being is used as an operational definition and is identified through a combination of well-being (i.e., life satisfaction and self-esteem) and lack of psychological distress (i.e., depressive symptoms and emotional exhaustion). This approach follows Keyes' model of complete state mental health, in which it is important to explore both the presence and absence of mental illness and mental health symptoms (Keyes, 2002, 2005). In the current research the presence of mental health will be examined with subjective well-being measures of life satisfaction and self-esteem, and the absence of mental illness with subjective well-being measures of depressive symptoms and emotional exhaustion. However, in this study emotional exhaustion has specifically been measured in the school context (see P. Parker & Salmela-Aro, 2011).

The generalisation approach. I hypothesise that autonomy support from parents is a significant determinant of the post-transition experience of adolescents. Longitudinal data has

been used to deal with issues of internal validity, but interpretation of results can still be limited by problems regarding external validity (see Campbell, 1986). This can be overcome however, by applying the same theorised model to multiple samples that vary in threats to external validity (e.g., maturation, instrumentation), and then see whether the pattern of results are consistent across these samples (Shadish, Cook, & Campbell, 2002). A stronger test is provided by applying the model to multiple developmental periods (i.e., maturation), context (i.e., educational transition), and instrumentation (i.e., different measures used to assess the central construct, see Method). Testing multiple educational transitions rather than a single transition in isolation is not only important from a developmental perspective, but different samples make it possible to apply pattern matching with consistent results across contexts increasing the external validity of those results (for a review see Shadish et al., 2002; for an example of this approach see P. Parker, Schoon et al., 2012).

Determinants of Well-being at Educational Transitions

How an adolescent deals with transitional changes depends on intrapsychic factors, their social network, and wider conditions that are shaped by structural constraints (e.g., societal, cultural, and institutional conditions). Successful engagement in educational transitions is often facilitated by goal setting, identity negotiation, and co-regulation (Dietrich et al., 2012). Co-regulation refers to the idea that a transition represents shared projects and goals between youth, and typically, their parents. This does not only mean that parents influence their children, but also that youth influence their parents. Parents remain important across adolescence and into emerging adulthood (Oswald & Clark, 2003; P. Parker, Lüdtke et al., 2012). It is a common misconception that parents become less important as children grow up. As argued by Ryan and Lynch (1989) even as adolescents gain independence in various domains in life, parental supports for autonomy continue to be critical to well-being. Indeed,

transition success is not only affected by personal capacities, but also by support from the family context (Dietrich et al., 2012; Salmela-Aro & Little, 2007).

Co-regulation and the effectiveness of autonomy supportive parenting during transitions can be explained via the stage-environment fit theory. This theory outlines how optimal development occurs when the needs of a person fit with opportunities in different stages of life (Eccles & Midgley, 1989). In the present study, the important fit occurs between a young person's need (e.g., need for autonomy) and the social environment (e.g., autonomy supportive parenting). A mismatch between the needs and environment can have negative influences on behaviour, motivation, and well-being (Eccles, Midgley, Buchanan, Wigfield, Reuman, & MacIver, 1993; Gutman & Eccles, 2007). The mismatch between autonomy need and autonomy support may be particularly problematic, especially during transitions in which children may specifically be able to benefit from outcomes associated with need support such as greater resilience and emotional regulation (see Vansteenkiste & Ryan, 2013).

In line with co-regulation, parental autonomy support may be seen as a resource, which eases the strain of developmental tasks and allows young people to take advantages of the new affordances offered by educational transitions and thus experience greater well-being (Salmela-Aro & Little, 2007). With this connection in mind, it is hypothesised that parents that are responsive and developmentally sensitive to the adolescent's needs and experience serve as a resource that buffers against detrimental resources of stress and a promotive resource that increases general well-being. Here I focus specifically on the concept of autonomy supportive parenting using a self-determination framework (e.g., Grolnick & Ryan, 1989).

Self-Determination and Well-Being

Self-determination theory (SDT) is a theoretical framework that emphasizes the importance of autonomous motivation in psychological development and positive coping

(Deci & Ryan, 1985; Ryan & Deci, 2017). This theoretical framework has been applied to education research in numerous empirical studies (for review, see Ryan & Deci, 2017). The theory argues that there are basic psychological needs that must be fulfilled across the lifespan for autonomous motivation and well-being to be maintained or enhanced (Ryan, Deci, & Vansteenkiste, 2016). More specifically, psychological needs are those that are required for sustenance, growth, and health. Within the frame of SDT there are three essential or basic psychological needs: the need for autonomy, competence, and relatedness (Deci & Ryan, 1985). Autonomy refers to the feeling that one's behaviour is volitional and self-endorsed, not pressured or controlled (Ryan & Deci, 2017). When others support autonomy, they are nurturing capacities for self-regulation, and contributing to wellness. This study focuses on the autonomy need because a great number of studies have shown that autonomy support alone increases not only autonomy, but also competence and relatedness satisfaction (e.g., Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Grolnick, 2003; Ryan & Grolnick, 1986; Soenens & Vansteenkiste, 2005).

It is recognized by SDT that social environments may work against the development of the psychological needs. Environments where the psychological need satisfaction is neglected or thwarted promote psychological distress and psychopathology. Particularly critical in this respect is parental autonomy support which has been empirically shown to facilitate greater mental health and lower psychopathology (Ryan et al., 2016). Thus in the current study, I will focus on the autonomy support that parents provide.

The Role of the Parent

Autonomy support allows individuals to actively reflect upon and adapt values and interests as their own. Parental behaviours that are consistent with autonomy support include taking the child's perspective, providing relevant choices, and encouragement to take initiative and explore (Grolnick, 2003; Ryan et al., 2016; Soenens & Beyers, 2012).

Consequently, adolescents with awareness of personal interests, values, and goals, will be better at making decisions throughout their developmental tasks, as they have something to base their own actions on (Grolnick, 2003; Van der Giessen, Branje, & Meeus, 2014). Overall, autonomy support encourages an adaptive style of development, characterized by age-appropriate behaviour and well-being.

During development, parents can be thought of as a resource. Parents who meet the adolescents' needs (e.g., by providing appropriate autonomy support) provide a better match for the adolescent and the developmental task at hand. Outcomes of autonomy supportive parenting further include increased autonomous regulation, mindfulness, less defensiveness and more openness, more helpful ways of dealing with stress, and adaptive emotional regulation strategies (Brenning et al., 2015; Ryan et al., 2005). These outcomes all lead to greater resilience which may benefit youth in many ways while they traverse their developmental tasks (see Vansteenkiste & Ryan, 2013). This positive role of parents in the adolescents' development has, in turn, shown to be associated to a greater overall well-being (Chirkov & Ryan, 2001). In fact, autonomy support is positively associated with adolescent well-being across all ages and gender (La Guardia et al. 2000; Soenens et al., 2012).

As mentioned above, a variety of studies show that an autonomy supportive environment is essential to the child's adjustment (e.g., Guay et al., 2003). Higher autonomy support has been shown to relate to low emotional exhaustion (e.g. Van den Berghe et al., 2013; Roth, Assor, Kanat-Maymon, & Kaplan, 2007). Autonomy supportive parenting has been associated with less depressive symptoms in youth (Chirkov & Ryan, 2001; Ryan et al., 2016). Moreover, perceived parental autonomy also promotes a sense of well-being by increasing life satisfaction (Park, 2004) and self-esteem (Soenens et al., 2007). In fact, most positive educational outcomes and well-being are associated with autonomous motivation (see Vallerand, Fortier, & Guay, 1997). This includes positive educational outcomes such as

greater achievement and easier adjustment to school (see Joussemet, Landry, & Koestner, 2008; Lord, Eccles, & McCarthy, 1994). I expect autonomy support to influence well-being (both general and school related) across educational transitions.

It is important to note, however, that parents are likely to be influenced by factors other than the developmental transitional period. Specifically, parents may adjust their level of autonomy support based on their child's particular circumstances, including their level of mental health and well-being. Current research suggests parents and adolescents can mutually influence, or "co-regulate", each other (Dietrich, et al., 2012; Nurmi, 2004). Therefore, a young person's well-being may influence what parenting style is used. However, the mechanisms behind co-regulation are not well defined (Dietrich, et al., 2012). Therefore, it is difficult to hypothesise the extent that well-being is an antecedent to changes in parenting style during educational transitions. As such this co-regulation influence has been left as a research question.

Influence of Parental Gender

Despite the increasing influence and involvement of fathers in a child's upbringing (Lindsey & Mize, 2001), there are several developmental psychologists that claim that mothers and fathers play different roles. Such theorists suggest that mothers have more influence on the adolescents' direct social environment (e.g., friendship), while fathers are more influential for goal oriented activities (e.g., career development; Grolnick, Weiss, McKenzie, & Wrightman, 1996; Tynkkynen, Nurmi, & Salmela-Aro, 2010). Because educational transitions often include goal oriented activities such as career choice, it is possible that fathers exert more influence with autonomy support in the current study. On the other hand, social environments are also affected by transitions (P. Parker, et al., 2012), making it likely that maternal autonomy support is also influential in the current study.

Most autonomy support research does not mention any distinction between parental genders (e.g., Brenning et al., 2015; Soenens et al., 2007). Studies that do make a distinction report a difference between effects of maternal and paternal autonomy support on self-determination and achievement, but none of these differences have been explored for effects on well-being (e.g., Grolnick, Ryan, & Deci, 1991; Soenens & Vansteenkiste, 2005). Given a lack of evidence on differential effects of paternal and maternal autonomy support on well-being, I present this as a research question.

The Current Study

Educational transitions are a critical period for the development of well-being (Larose & Boivin, 1997). The current study will explore perceived parental autonomy support and its relationship with change in well-being across all major educational transitions of high school. The social context in which an adolescent develops can either facilitate or thwart developmental tasks that are important around school transitions. Parents seem to have a great influence on developmental tasks by providing autonomy support (Ryan & Deci, 2017). Perceived parental autonomy support, in turn, is expected to contribute to the adolescents' successful educational transition as characterized by greater general- and school related well-being. Since this relationship is bidirectional according to co-regulation, I will also look at the effects of well-being on parental autonomy support across the transitions via cross-lagged structural equation modeling (SEM). On this basis the following hypothesis and research questions are proposed:

Hypothesis: I hypothesise that perceived autonomy support would promote positive changes in well-being (i.e., life satisfaction and self-esteem) and buffer against declines in well-being (i.e., depressive symptoms and emotional exhaustion) during the transitions surrounding high

school. A series of longitudinal cross-lagged SEM will be used to test this hypothesis. I

explore the influence of perceived autonomy supportive parenting on changes in well-being

during three major educational transitions (i.e., middle school transition, high school

transition, and post high school transition). Given that it was not possible to use directly

comparable measures across all three transitions due to differences in measures and samples

(see below), my focus will be on effects that are consistent across transitions and thus display

evidence of generalizability across educational transitions (see P. Parker, Schoon, et al., 2012,

for an example).

Research Question 1: Co-regulation theory suggests that parents and youth will demonstrate

bidirectional influences during educational transitions (Dietrich et al., 2012). Therefore, it is

possible that perceived autonomy support does not only affect well-being but also that well-

being affects perceived autonomy support. Where data allows, the research tests the statistical

significance and direction of these bidirectional relationships.

Research Question 2: Given limited existing research I explore whether perceived autonomy

support, and its effect on well-being, is contingent on parental gender.

Method

Secondary Data Analysis

Research in developmental psychology has profited greatly from secondary data

analysis (e.g., Elder, 1998). Secondary or archive data analysis can be defined as the

repurposing of existing datasets to answer new questions of significance and it represents

both a central objective of major funding bodies (e.g., Commonwealth of Australia, 2011,

2012) and a developing science in its own right (Elder et al., 1993). There exists a paucity of

databases that covers multiple educational transitions from the perspective of autonomy

supportive parenting and its influence of well-being. However, leveraging off a series of large

scale databases from Finland it was possible to develop reliable and construct valid measures

of perceived autonomy supportive parenting (see supplementary material) and use them to

explore all major educational transitions of high school. In addition, it was possible to

leverage off unique aspects of two of the transitions to compare and contrast young people's

perception of the autonomy support they receive from their father and/or mother. Thus the

current research provides a novel approach to leveraging value from existing data.

Participants and Procedure

The current research consisted of three samples from two Finnish longitudinal

databases: the Mind the Gap (MtG) study and the Finnish Educational Transitions (FinEdu)

study. Three transitions were explored. See Table 7.1 for an overview of the samples used for

each transition in addition to the description below.

Table 7.1

Overview of Data and the Associated Attributes for Each Transition Wave

Transition wave	Database	Data collection	Sample use	Sample size	Autonomy measure	Parents	Average age
MS-pre	MtG	2013	Full sample	760	Present	M & F	12
MS-post	MtG	2014	Full sample	483	Absent	n/a	13
HS-pre	FinEdu	2004	Subsample	214	Present	M & F	15
HS-post	FinEdu	2005	Subsample	189	Present	M & F	16
PHS-pre	FinEdu	2006	Full sample	858	Present	Unspecified	18
PHS-post	FinEdu	2008	Full sample	607	Present	Unspecified	21

Note: MS-pre = before middle school transition; MS-post = after middle school transition;
HS-pre = before high school transition; HS-post = after high school transition; PHS-pre =
before post high school transition; PHS-post = after post high school transition; MtG = Mind
the Gap database; FinEdu = Finnish Educational Transition database; M = mother; F = father.

Middle school transition. The MtG study is a longitudinal follow-up study (2013-

2016) of a sample of Finnish adolescents from Helsinki. The aims of the MtG are to examine

challenges in development, including the effects of social and cultural context, particularly

educational practices. Two waves of MtG data are used in the current study for the middle

school transition consisting of data before the middle school transition (MS-pre; T1, grade 6, $N = 760$ [55.7% girls]; mean age = 12) and after the middle school transition (MS-post; T2, grade 7, $N = 483$ [55.8% girls]; mean age = 13). The participants were distributed across 34 schools from Helsinki at MS-pre. Of these students 68% lived with both their mother and father. Regarding the parents, 93% of the mothers and 94% of the fathers were employed, and 89% of the mothers and 91% of the fathers spoke Finnish as their first language. Questionnaires of MS-pre and MS-post were administered during school hours around the middle of the school year, with one year taking place between data collection points.

High school transition. Data for the high school and post high school transition comes from the FinEdu study which is a seven wave longitudinal follow-up study (2004-2013/2014) of a sample of ninth grade students in Finnish high schools from an industrial town. The FinEdu research aims to study the educational transition and the choices that people face after compulsory comprehensive education. A subset of only two schools had measures for perceived autonomy support in the first wave of the high school transition waves, therefore only this subset was used consisting of data before the school transition (HS-pre; T1, grade 9, $N = 214$ [51.9% girls]; mean age = 16, $SD = 0.23$) and after the high school transition (HS-post; T2, grade 10, $N = 189$ [55.9% girls]; mean age = 17, $SD = 0.20$). After the high school transition 59% of the students transferred to the university track, 27% to vocational education, 5% started employment, 6% was unemployed without education, and 3% started something else. Of these students 63% lived with both their parents. Regarding the parents, 93% of the mothers and 88% of the fathers were employed. Ninety-nine percent of both parents spoke Finnish as their mother tongue. Questionnaires for both HS-pre and HS-post were administered during school hours around the middle of the school year (i.e., January, after the winter holidays), with one year taking place between data collection points.

Post high school transition. The full available FinEdu data was used for the post high school transition, consisting of data before the post high school transition (PHS-pre; T1, grade 11, $N = 858$ [47.8% girls]; mean age = 18) and after the post high school transition (PHS-post; T2, 1 year after the transition, $N = 607$ [52.6% girls]; mean age = 21). In this case the survey design had transitioned from collecting parental data from a subset to the whole sample. The participants from the PHS-pre sample came from 12 different schools from an industrial town in Finland. After the post high school transition 36% of the students started university, 13% vocational education, 34% employment, 14% was unemployed without further education, and 2% stayed in high school. Fifty-eight percent of the students lived with both their parents. Questionnaires for PHS-pre were administered during school hours, whereas questionnaires for PHS-post were completed at home of which 75% was done on paper and the rest was taken online. The data was collected around the middle of the school year for PHS-pre. For PHS-post the questionnaires were sent out around the middle of the school year of which the last few questionnaires were returned in April. Data collection of PHS-pre and PHS-post took place around two years apart from each other.

Measures

Autonomy supportive parenting index. In the MtG, at MS-pre, the autonomy supportive parenting index was developed from items contained in a modified version of the Child Rearing Practices Report (CRPR; Aunola & Nurmi, 2004; Roberts, Block, & Block, 1984). Participants indicated how well each item describes their relationship with their mother and father (1 = *Not at all true*; 7 = *Completely true*). From this data I composed an index of three items that assess perceived autonomy support from the mother and father individually which includes items such as: "My mother/father takes my thoughts into consideration, when planning family matters" (see supplementary material). Reliability

scores of the autonomy support index showed a Cronbach's alpha of .76 and a greater lower

bound (glb) value of .78.[2]

Autonomy supportive parenting in FinEdu, at HS-pre and HS-post, were measured by

completing a modified version of the CRPR (Aunola & Nurmi, 2004; Roberts et al., 1984).

Participants had to indicate how well each item describes their relationship with the mother

and father separately (1 = *Does not fit me at all*; 7 = *Fits me completely*). The autonomy

support index is composed of five items that assess perceived autonomy support with items

such as: "My mother/father respects my opinions" (see supplementary material). Alpha of the

autonomy support index ranged from .86 to .87, the glb value ranged from .85 to .90.

For PHS-pre and PHS-post a shortened and modified version of the CRPR

questionnaire was used. Here participants had to indicate how well each item describes their

relationship with both their parents (1 = *Not at all true*; 7 = *Very True*). The scale is

composed of four items that assess perceived autonomy support with items such as: "My

parents have supported me in my own decisions" (see supplementary material). Reliability of

the modified autonomy support index showed both alpha and glb ranging from .78 to .82.

General well-being. General well-being for all time waves were measured by

completing the DEPS depression scale (Salokangas, Poutanen, & Stengård, 1995), a short

version of Rosenberg's Self-Esteem Scale (Rosenberg, 1965), the Satisfaction with Life Scale

(Diener, Emmons, Larsen, & Griffin, 1985), and the School Burnout Inventory (SBI;

Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009; Salmela-Aro & Näätänen, 2005). On the

DEPS depression scale participants report on the occurrence of 10 types of moods in the past

month (1 = *Not at all*; 4 = *Very much*), with items such as "I have felt all the joy had

disappeared from my life". Reliability of the original DEPS was .86 (Salokangas, et al.,

1995), in the current study the alpha ranged from .91 to .92 and the glb ranged from .94 to

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[2] There are quite serious issues with alpha which suggests alternatives should be considered (Sijtsma, 2009). Although glb is a better measure of reliability than alpha (Bentler & Woodward, 1980), continued persistence of alpha in the literature led me to retain the alpha.

.95. Rosenberg's Self-Esteem Scale comprises of five items that assess one's agreement

(1 = *Completely* disagree; 7 = *Completely agree*) on acceptance, self-respect, and overall

attitude towards oneself with items such as "I think I have many good qualities". Reliability

of the original self-esteem scale ranged from .77 to .88 (Rosenberg, 1965), in the current

study the alpha ranged from .71 to .83 and the glb ranged from .82 to .91. The Satisfaction

with Life Scale consists of five items on which participants had to indicate how much they

agree (1 = *Completely disagree*; 7 = *Completely agree*) with statements such as "For the most

part my life is near my ideal". The original Satisfaction of Life Scale's reliability was .87

(Diener, et al., 1985), in the current study the alpha ranged from .87 to .89 and the glb ranged

from .88 to .91.

On the SBI participants rate how well the 10 items (nine items for HS-pre and HS-

post) describe their school situation (1 = *Completely* disagree; 7 = *Completely* agree) with

items such as "I feel overwhelmed with my school work". A subset of three items from the

SBI was averaged to create a subscale of emotional exhaustion (Salmela-Aro & Näätänen,

2005). Reliability of the original emotional exhaustion subscale was .80 (Salmela-Aro et al.,

2009), in the current study the alpha ranged from .56 to .79 and the glb ranged from .60 to

.80. The subscale of emotional exhaustion originally consists of four items (Salmela-Aro &

Näätänen, 2005), however, because only three out of four items are available for HS-pre and

HS-post it was decided to use only those three items for all the transition analyses for

consistency. Sensitivity analysis with four items suggested almost identical findings and

made no difference to the interpretation of results or effect sizes in any case. At PHS-post the

SBI focused on work instead of school related burnout, items changed accordingly (e.g., I

feel overwhelmed with my work").

Statistical Analysis

Measurement invariance. Multiple-group SEM invariance tests were utilized to test differences in parental gender for perceived autonomy support and to test longitudinal measurement invariance for all the variables. First, invariance testing was used for each construct separately, to confirm that the construct was invariant across time, and where relevant, across group (Widaman, Ferrer, & Conger, 2010). Measurement invariance testing starts with the least restrictive configural model (M1), where all model parameters are freely estimated across time and between parental gender independently. This model is then compared to a model (M2) where factor loadings of each indicator were constrained to be equal across time points and for both mother and father. Invariance in the measurement models is an assumption of covariance-based models such as the cross-lagged SEM models analyzed in the current study (Nagengast et al., 2011). These results are provided in the supplementary material and show support for measurement invariance in all cases.

Structural invariance. Structural invariance was utilised when considering differences in regression parameters between ratings of mother's and father's autonomy support. The first model (S1) for structural invariance testing consisted of the full cross-lagged SEM with factor loadings constrained to be equal across time and parental gender but regression parameters were allowed to vary across groups. This model was then compared to a model (S2) that additionally held regression constant across the groups. Standardized loadings for all transition points have been presented in Table 7.2. No difference between parental genders in the influence of perceived autonomy supportive parenting on well-being was supported when there is little difference between chi-square values and fit between models.

As explained, evidence of invariance comes from comparing a baseline model with good fit to alternate nested models. Comparisons are made with the corrected difference

between chi-square values of the two models. The corrected difference for models using

weighted least squared with mean and variance (WLSMV) was based of the difftest

command in Mplus (Muthén & Muthén, 2015), all other corrected differences use the

formula from Satorra and Bentler (2010). I further used the criteria by Cheung and Rensvold

(2002) who suggested invariance between the nested models if the difference in Comparative

Fit Index (CFI) is ≤ .01 (the same criteria was applied for the Tucker Lewis Index; TFI), and,

as suggested by Chen (2007), that the difference in Root Mean Square Error of

Approximation (RMSEA) is ≤ .015.

Table 7.2

Descriptive Statistics, Differences across the Educational Transitions, and Standardized Factor Loadings of the Cross-Lagged Models for the Well-Being Variables and Perceived Parental Autonomy Support

	M (SD)		t	95% Confidence Interval		d	Factor Loadings Range	
	Pre-Transition	Post-Transition						
Middle School Transition								
Autonomy Support Mother	5.99 (1.08)	-	-	-	-	-	.71	.72
Autonomy Support Father	5.74 (1.28)	-	-	-	-	-		
Depressive Symptoms	1.62 (0.64)	1.56 (0.62)	-3.66***	0.06	0.19	-0.16	.82	.83
Life Satisfaction	5.21 (1.26)	4.81 (1.34)	-7.41***	0.30	0.52	-0.25	.76	.80
Self-esteem	4.73 (1.12)	4.64 (1.19)	0.80	-0.15	0.06	0.03	.58	.61
Emotional Exhaustion	2.57 (1.10)	2.78 (1.18)	2.81***	-0.28	-0.05	0.11	.62	.68
High School Transition								
Autonomy Support Mother	5.68 (1.09)	5.55 (1.13)	-1.21	0.05	0.23	-0.07	.73	.75
Autonomy Support Father	5.35 (1.26)	5.21 (1.18)	-0.91	-0.09	0.24	-0.06		
Depressive Symptoms	1.61 (0.55)	1.50 (0.52)	-2.16*	0.01	0.18	-0.16	.78	.80
Life Satisfaction	4.79 (1.31)	4.94 (1.06)	2.32*	-0.39	-0.03	0.18	.74	.75
Self-esteem	4.56 (1.09)	4.89 (1.02)	4.47***	-0.41	-0.16	0.25	.60	.63
Emotional Exhaustion	2.77 (0.92)	2.74 (1.05)	-0.67	-0.09	0.19	-0.05	.58	.74
Post High School Transition								
Autonomy Support	5.39 (1.13)	5.65 (1.16)	5.23***	-0.40	-0.18	0.23	.64	.69
Depressive Symptoms	1.57 (0.56)	1.62 (0.58)	2.66***	-0.12	-0.02	0.11	.74	.80
Life Satisfaction	4.88 (1.24)	4.69 (1.25)	-4.26***	0.13	0.34	-0.17	.78	.80
Self-esteem	5.02 (1.16)	4.98 (1.17)	-0.85	-0.05	0.14	-0.03	.67	.72
Emotional Exhaustion	2.65 (1.05)	2.75 (1.06)	0.23	-0.13	0.10	0.01	.67	.77

* $p < .05$, ** $p < .01$, *** $p < .001$

Structural equation modeling. Structural equation modeling (SEM) was used to test the predictive pathways between students' perceived autonomy support and well-being across the three transitions (models S1 and S2; see Figure 7.1). Cross-lagged models allow for analysis of multiple waves of data and allow the researcher to explore plausible alternate explanations for the relationships among the variables, such as reversed or reciprocal effects (Burkholder & Harlow, 2003). Therefore, a cross-lagged model made it possible consider the major hypothesis: that parental autonomy support before the transition enhances well-being and/or protects against declines in well-being. However, in several cases it was also possible to explore the alternative perspective: that well-being before the transition is associated with changes in the amount of autonomy support parents give to their child.
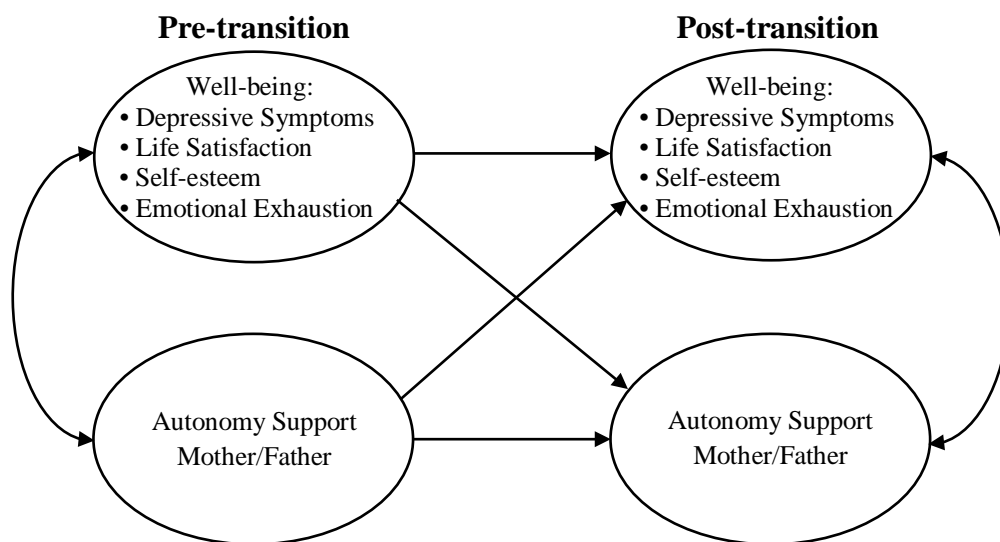
Figure 7.1. Multi-group cross lagged structural equation model of long-term relationships between variables measuring well-being (i.e., depressive Symptoms, life satisfaction, self-esteem, and emotional exhaustion) and perceived parental autonomy support, with the distinction of mother and father autonomy support as groups. Each well-being variable is analysed in a separate model.
Note: For the middle school transition this model does not include post-transition autonomy support.

This study further followed the use of the CFI, TLI, and the RMSEA, in addition to the chi-square value to assess model fit (Hoyle & Panter, 1995), considering its sensitivity to sample size (McDonald & Marsh, 1990). For a model to be considered an excellent fit, both a TLI and CFI of .95 or above are expected, however, values of .90 or higher are also acceptable (Byrne, 2012). Furthermore, RMSEA 'close-fit' to 'acceptable fit' values range from .05 or below to .08 or below respectively (Browne & Cudeck, 1993).

Attrition is common with research that tracks individuals across developmental trajectories, especially with research that involves many participants. To account for such missing data, the full-information maximum likelihood estimator was used. Because the depressive symptoms response scale consisted of only four categories and because the data was not normally distributed and highly skewed, as would be expected from frequency response scale, I treated the items as ordered categorical and used the WLSMV estimator for models using depressive symptoms. The other well-being factors had indicator items with more than five response categories and thus, consistent with Rhemtulla, Brosseau-Liard, and Savalei (2012), were better suited to being treated as continuous and estimated using maximum likelihood. Robust maximum likelihood (MLR) was used to account for departures from multivariate normality. Finally, interdependence due to participants rating both mothers and fathers in a single model was accounted for using cluster robust standard errors (i.e., the TYPE=COMPLEX command in Mplus). Student gender was used as a covariate in all the models. Mplus version 7.4 (Muthén & Muthén, 2015) was used for the main analyses (i.e., invariance testing and cross-lagged SEM) and R version 3.2.0 (R Core Team, 2015) on Windows was used for descriptive analyses (e.g., reliability, t-tests, and correlations).

Results

The results section is organised by transition. I first report results for the middle school transition, followed by the high school transition, and then the post high school

transition. Descriptive results are reported first within each transition, then, where pertinent, test a model in which the effect of perceived maternal and paternal autonomy support on well-being is free to differ versus constrained to be equal. After, I focus on the individual parameters by considering the role that autonomy support plays in changes in well-being and ill-being across the transition. The models that were used allowed consideration of the reciprocal path for the high school and post high school transition, in which I consider whether young people's pre-transition well-being/ill-being influences the change in perceived parental autonomy support after the transition. Finally, I consider the correlated residual between change in well-being/ill-being and changes in autonomy support as a proxy for considering the association in change between these variables where possible (see P. Parker, Lüdtke et al., 2012). Such an association would suggest that some unobserved latent or set of latent variables (i.e., the nature of the transition itself) leads to changes in both the perceived autonomy support parents provide and the well-being/ill-being of the participant themselves.

Regarding missing data, the attrition rate of the middle school transition, high school transition, and post high school transition were respectively 36%, 10%, and 23%, and item-level non-response was very small ranging from 1.6% (PHS-pre) to 6.8% (MS-pre). Such attrition rates are expected for transitional data and are similar to large government run and funded longitudinal databases that also cover transitions (e.g., The Longitudinal Study of Australian Youth). The missing completely at random (MCAR) test (MissMech package in R; Jamshidian, Jalal, & Jansen, 2014) revealed that data was not missing complete at random, $p < .01$. This is unsurprising given missing data was typically due to attrition. I next explored potential missing data mechanisms. For the high school and post high school transitions boys were significantly more likely to drop out of the study than girls at the high school transition ($t = 2.6$, $p < .05$) and at the post high school transition ($t = 4.55$, $p < .00$). Participants with lower GPA were also significantly more likely to drop out of the study at the high school

transition ($t = 3.04$, $p < .01$) and the post high school transition ($t = 2.87$, $p < .00$). Missing data was not associated with autonomy supportive parenting, or any of the key dependent variables.

In all analyses, I operated under the assumption that data were not MCAR but were missing at random. This was a reasonable assumption given longitudinal data provides a good basis for imputing missing data due to attrition. To account for missing full-information-maximum-likelihood was utilised, which uses all available information (Enders, 2010). In order to provide a coherent and succinct results section I do not report measurement invariance across time and, where relevant, across parents. This information, along with zero-order correlation matrices can be found in the supplementary material. As noted above, in all cases there was convincing evidence of measurement invariance.

Middle School Transition

Descriptives. The data from MtG did not include a measure of post-transition autonomy support. As a result, it was not possible to include any data on post-transition autonomy support at the middle school transition. Descriptive statistics of the sample used for the middle school transition can be found in Table 7.2. The descriptive statistics show that reported depressive symptoms decreased across the transition, while on the other hand, life satisfaction decreased and emotional exhaustion increased. Additionally, mothers were found to provide more autonomy support than fathers before the transition with $t(702) = 6.21$, $p < .00$, 95% CI [0.16, 0.31].

Structural invariance testing. Model invariance results show that there was little difference between the fit of models S1 and S2 for every well-being variable (see Table 7.3). This suggested regression coefficients were similar regardless of whether support measures were focused on mothers or fathers. The fit of the model was adequate in all cases (see Table 7.3).

Table 7.3

Fit Indices for Cross-Lagged SEM Models for all Transitions Including Structural Invariance

	χ^2	df	CFI	TLI	RMSEA
Middle School Transition					
Depressive Symptoms Model					
S1	1446	574	.98	.98	.034
S2	1380	576	.99	.99	.032
Difference	1.10	2	.01	.01	.001
Life Satisfaction Model					
S1	601	164	.95	.94	.045
S2	607	166	.95	.94	.045
Difference	1.92	2	.00	.00	.000
Self-esteem Model					
S1	508	156	.92	.91	.045
S2	602	158	.92	.91	.046
Difference	1.60	2	.00	.00	.001
Emotional Exhaustion Model					
S1	137	74	.98	.97	.025
S2	139	76	.98	.97	.025
Difference	0.01	2	.00	.00	.001
High School Transition					
Depressive Symptoms Model					
S1	1265	940	.97	.97	.037
S2	1233	944	.97	.97	.034
Difference	1.28	4	.00	.00	.003
Life Satisfaction Model					
S1	590	390	.94	.93	.045
S2	597	394	.94	.93	.045
Difference	6.31	4	.00	.00	.000
Self-esteem Model					
S1	613	386	.93	.930	.048
S2	621	390	.93	.930	.048
Difference	11.00*	4	.00	.00	.000
Emotional Exhaustion Model					
S1	313	236	.96	.96	.034
S2	316	240	.96	.96	.035
Difference	7.49	4	.00	.00	.000
Post High School Transition					
Depressive Symptoms Model	1237	395	.95	.95	.053
Life Satisfaction Model	405	145	.95	.94	.049
Self-esteem Model	400	142	.95	.94	.049
Emotional Exhaustion Model	184	81	.96	.95	.041

Fits Differences Accounting for Student Gender and Interdependence

Note: S1 = constrained factor loadings between time waves and parent groups; S2 = constrained factor loadings between time waves and parent groups and constrained regression between parent groups.

* $p < .05$

Model results. Having noted the similarity of the models across parents, I now turn the attention to the specific model results in which the potential reciprocal relationships between perceived autonomy support and well-being (i.e., depressive symptoms, life satisfaction, self-esteem, and emotional exhaustion) are considered over the middle school transition (see Table 7.4). In only one case was a significant cross-lagged effect observed, with higher levels of autonomy support before the transition significantly predicting a decline in depressive symptoms as children moved into middle school. Results for R^2 of the endogenous variables are provided in the supplementary material.

High School Transition

Descriptives. Descriptive statistics of the sample used for the high school transition can be found in Table 7.2. They show that reported depressive symptoms decreased across the transition and life satisfaction and self-esteem increased while emotional exhaustion showed no significant change. Although these changes are not all big, it shows that most students managed the high school transition well. Additionally, mothers were seen as providing more autonomy support than fathers both before and after the transition with $t(194)$ = 4.25, $p < .00$, 95% CI [0.16, 0.43] and $t(221) = 5.12$, $p < .00$, 95% CI [0.20, 0.46] respectively.

Structural invariance testing. Invariance testing for SEM worked the same as described for the middle school transition. The model invariance results show that there were again no substantial differences between model fits, apart from the models that test self-esteem (see Table 7.3). This indicated that perceived autonomy support from mothers and fathers predicted changes in depressive symptoms, life satisfaction, and emotional exhaustion in a similar manner across the high school transition, but not self-esteem. The CFI, TLI, and RMSEA fit were adequate for all models (see Table 7.3).

Table 7.4

Standardised Beta Coefficients and Standard Error for Multi-Group SEM of the Effect of Autonomy Supportive Parenting on Educational Transition Well-Being Accounting for Student Gender and Interdependence

	Mother		Father	
	Post-transition Well-Being	Post-transition Autonomy Support	Post-transition Well-Being	Post-transition Autonomy Support
Middle School Transition				
Depressive Symptoms				
Pre-transition Well-Being	.51*** (.05)	-	.51*** (.05)	-
Pre-transition Autonomy Support	-.22*** (.06)	-	-.25* (.05)	-
Life Satisfaction				
Pre-transition Well-Being	.59*** (.05)	-	.60*** (.05)	-
Pre-transition Autonomy Support	.04 (.06)	-	.08 (.07)	-
Self-esteem				
Pre-transition Well-Being	.49*** (.06)	-	.47*** (.06)	-
Pre-transition Autonomy Support	.07 (.06)	-	.11^ (.06)	-
Emotional Exhaustion - School				
Pre-transition Well-Being	.47*** (.07)	-	.46*** (.07)	-
Pre-transition Autonomy Support	.04 (.06)	-	.01 (.06)	-
High School Transition				
Depressive Symptoms				
Pre-transition Well-Being	.44*** (.07)	-.21* (.09)	.45*** (.08)	-.24** (.08)
Pre-transition Autonomy Support	-.24*** (.08)	.64*** (.05)	-.22*** (.07)	.73*** (.04)
Life Satisfaction				
Pre-transition Well-Being	.41*** (.12)	.09 (.11)	.34*** (.13)	-.04 (.11)
Pre-transition Autonomy Support	.09 (.11)	.60*** (.09)	.15 (.12)	.71*** (.11)
Self-esteem				
Pre-transition Well-Being	.67*** (.06)	.13 (.09)	.66*** (.06)	-.06 (.05)
Pre-transition Autonomy Support	.10 (.07)	.61*** (.08)	.16* (.07)	.72*** (.05)
Emotional Exhaustion - School				
Pre-transition Well-Being	.70*** (.09)	-.14 (.09)	.71*** (.08)	-.08 (.09)
Pre-transition Autonomy Support	-.13 (.09)	.63*** (.07)	-.08 (.08)	.71*** (.06)
Post High School Transition	**Combined Parents**			
Depressive Symptoms				
Pre-transition Well-Being	.58*** (.04)	-.27*** (.05)	-	-
Pre-transition Autonomy Support	-.39*** (.05)	.52*** (.05)	-	-
Life Satisfaction				
Pre-transition Well-Being	.52*** (.05)	.20** (.07)	-	-
Pre-transition Autonomy Support	.01 (.06)	.38*** (.06)	-	-
Self-esteem				
Pre-transition Well-Being	.60*** (.05)	.10 (.06)	-	-
Pre-transition Autonomy Support	.12* (.05)	.44*** (.06)	-	-
Emotional Exhaustion				
Pre-transition Well-Being	.47*** (.06)	-.04 (.05)	-	-
Pre-transition Autonomy Support	-.12* (.06)	.46*** (.06)	-	-

^ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .00$

Note: reporting standardised regression (β), with standard error in parentheses.

Model results. Having shown invariance in cross-lagged parameters across parents, I next explored the model results. A significant relationship was found between pre-transition autonomy support and post-transition depressive symptoms (see Table 7.4). A reciprocal effect was found for depressive symptoms, in which higher levels of depressive symptoms before the transition significantly predicted a decrease in perceived autonomy support after the transition. Higher paternal autonomy support before the transition was significantly related to an increase in self-esteem. This effect on self-esteem was only found for fathers because structural invariance between parents was not found for the self-esteem model. However, this difference between parents was only found because of the parental difference for the relationship between pre-transition well-being and post-transition autonomy support. There was no parental difference for the relationship between pre-transition autonomy support and post-transition well-being. When parental gender invariance was assumed for the self-esteem model, pre-transition autonomy support from both the mother ($\beta = .14$, $p < .05$) and father ($\beta = .13$, $p < .05$) was significantly related to an increase in post-transition self-esteem. Results for R^2 of the endogenous variables are provided in the supplementary material.

To provide a proxy for a relationship between change in both perceived autonomy support and well-being I also explored the correlated residuals in the post-transition wave (e.g., Ferrer & McArdle, 2010; Sturaro, Denissen, van Aken, & Asendorpf, 2008; Sutin & Costa, 2010). This provides an opportunity to consider if a common unmeasured variable (e.g., the relative success of the transition) influenced the development of both autonomy support and well-being. Change in perceived maternal autonomy support was positively related to change in life satisfaction ($r = .40$, $p < .00$), but not related to change in depressive symptoms ($r = -.04$, ns), self-esteem ($r = .16$, ns), and emotional exhaustion ($r = .13$, ns). Whereas change in paternal autonomy support was positively related to change in life

satisfaction ($r = .45$, $p < .00$) and self-esteem ($r = .34$, $p < .01$), but not related to change in depressive symptoms ($r = -.14$, *ns*) and emotional exhaustion ($r = -.04$, *ns*).

Post High School Transition

Descriptives. A similar model as for the high school transition was used to explore the post high school transition, but without differentiating gender of perceived parental autonomy support. Descriptive statistics of the sample used for the post high school transition can be found in Table 7.2. The descriptive statistics showed that autonomy support and depressive symptoms increase across the transition and that life satisfaction decreases.

Model results. Model results were explored next because no parental gender distinction was made for autonomy support at the post high school transition. A significant relationship was found between higher pre-transition perceived autonomy supportive parenting and a decrease in both depressive symptoms and emotional exhaustion across the transition (see Table 7.4). A similar pattern occurred for self-esteem, for which pre-transition autonomy support predicted an increase in self-esteem after the transition. The CFI, TLI, and RMSEA fit excellent to the data for all well-being models (see Table 7.3). Results for R^2 of the endogenous variables are provided in the supplementary material.

Significant reversed effects were also found. Depressive symptoms before the post high school transition significantly predicted a decrease in autonomy support after the transition. Additionally, pre-transition life satisfaction was found to significantly predict an increase in perceived autonomy supportive parenting after the transition.

The residual correlation was tested again in the post-transition wave to provide a proxy for a relationship between change in both perceived autonomy support and well-being. Change in autonomy supportive parenting was negatively related to change in depressive symptoms ($r = -.33$, $p < .00$) and emotional exhaustion ($r = -.24$, $p < .00$), and positively related to change in life satisfaction ($r = .52$, $p < .00$) and self-esteem ($r = .37$, $p < .00$).

Differences between transition models. Although the size of the relationship between pre-transition autonomy support and post-transition depressive symptoms appeared to get stronger throughout the three transitions, z-tests suggested this increase was rarely significant. The difference in effects of autonomy support on depressive symptoms was only found between the high school and post high school transition were they were near significant ($z = 1.59$, $p < .10$) for maternal parenting and significantly different ($z = 1.98$, $p < .05$) for paternal parenting.

Discussion

The current study examined whether perceived autonomy supportive parenting increases well-being across educational transitions surrounding high school (i.e., middle school transition, high school transition, and post high school transition). The focus was the association between perceived autonomy support from parents before an educational transition with decreases in depressive symptoms and emotional exhaustion, and increases in life satisfaction and self-esteem after the transition. I tested whether this relationship existed across all the major transitions of high school in order to identify whether the processes under investigation were generalizable. The results across the transitions provided strikingly similar results indicating that the role of autonomy support was as important for transitions out of high school as it was for transitions into and within high school. I further explored whether there was a difference between the effects of perceived autonomy support from mothers and fathers. The current study showed that mothers tended to provide more autonomy support than fathers but autonomy support tended to have similar relationships with change in well-being regardless of the gender of the parent. Perceived autonomy support before the transition tended to be an important protective factor in reducing depressive symptoms across each transition. Likewise, autonomy support was positively associated with an increase in self-

esteem for both the high school and post high school transitions. Moreover, emotional exhaustion was shown to decrease after the transition when autonomy support from parents was perceived, but only at the post high school transition.

Autonomy Support a Protective Factor, Promotive Factor, and Consistent?

In SDT autonomy supportive parenting is associated with well-being (Ryan & Deci, 2017). Well-being is often negatively affected by transition (Eccles et al., 1993), and therefore, general well-being after the transition is an important indicator of a successful transition (Eccles & Midgley, 1989). Educational transitions provide a potent natural experiment to explore how parental support relates to a change in well-being (Dietrich et al., 2012; Eccles & Midgley, 1989).

In support of the literature (Roeser, Eccles, & Freedman-Doan, 1999; Rudolph, Lambert, Clark, & Kurlakowsky, 2001), perceived autonomy support was found to be consistently associated with declines in depressive symptoms across the three high school transitions. According to SDT, the satisfaction of the autonomy need results in greater intrinsic motivation, leading to reduced depressive symptoms (Chirkov & Ryan, 2001). Additionally, through a similar mechanism as SDT, stage-environment fit shows that even when the child experiences a lack of autonomy need satisfaction in a new educational environment, parents are able to provide autonomy need satisfaction as a substitute (e.g., Midgley et al., 2002).

It is posited in SDT that autonomy support facilitates the construct of a coherent sense of self which in turn leads to a stable self-esteem (Deci & Ryan, 1995). As with depressive symptoms, the idea that satisfaction of the autonomy need leads to greater self-esteem was generally supported by the results, which showed that autonomy support from parents accounted for an increase in self-esteem across both the high school transition and post high school transition. One admittedly speculative possibility, as to why this effect was not

observed for the middle school, is that the middle school transition is a relatively minor transition in Finland, and therefore, may not trigger a major increase in independence. Indeed, this transition usually does not involve a change of school. This may explain the lack of significant effects for this transition and the smallest effect size for depressive symptoms out of the three tested transitions. However, given the difference in samples between this transition and the other transitions (e.g., from a big city compared to country town, and collected years after the other sample), future research is needed to evaluate this interesting possibility.

Emotional exhaustion literature shows that autonomy support, and thus autonomy need satisfaction, decreases emotional exhaustion that is experienced because of greater intrinsic motivation and a resulting feeling of accomplishment (Roth et al., 2007). In accordance with this literature, it was found that perceived autonomy support decreased emotional exhaustion, but only for the post high school transition. This specificity of findings could relate to the characteristics of the post high school transition during which many youths move into high stakes university education or the labour market, and thus emotional exhaustion becomes increasingly relevant. However, because this effect was only found for a single transition it is important that such interpretations remain tentative until supported by future research.

The consistency of the effects of parental autonomy support on depressive symptoms and self-esteem shows that autonomy support remains important throughout high school and beyond. This is an important finding because adolescence is usually associated with a growing importance of friends – as opposed to parents – as a source of social support (e.g., Conger & Little, 2010; Salmela-Aro & Nurmi, 1997). Arnett (2006) suggests that emerging adulthood is recognized by great change in relationships, specifically with parents. This change however, does not have to be negative; in fact, it can lead to more positive and

supportive relationships (Conger & Little, 2010; P. Parker, Lüdtke, et al., 2012; Tanner, 2006). The benefit of autonomy supportive parenting seemed to be especially clear for depressive symptoms. The size of the effects appeared to get stronger as adolescents moved through the post-high school transition by which time autonomy from parents may play a more important role (see Zarrett & Eccles, 2007). However, z-tests suggested this increase was rarely significant.

The way in which an individual responds to stressful life events, such as educational transition, may be a result of protective and promotive factors that the individual has at its disposal (Dagenais-Desmarais, Forest, Girouard, & Crevier-Braud, 2014; Patel & Goodman, 2007). Protective factors are factors which decrease psychological distress. Promotive factors in contrast, actively enhance psychological well-being (Patel & Goodman, 2007). The current results however, show that autonomy support may act as both a protective and promotive factor. Perceived parental autonomy support helped lower ill-being and increased well-being across transitions. The current results are consistent with the theory that autonomy support buffers adolescents against the effects of depressive symptoms, while promoting a sense of self-esteem. Put simply, parental investment in autonomy support before major educational transitions may facilitate their child's ability to flourish in the new environment and to gain from the new affordances offered by transitioning through their educational careers through greater coping skills and more adaptive emotional regulation strategies related to autonomy supportive parenting (see Vansteenkiste & Ryan, 2013). Receiving autonomy support from parents, while experiencing a mismatch in the need for autonomy from the educational environment after transition, may serve as a substitute for autonomy satisfaction from the direct educational environment (Midgley et al., 2002; Ryan & Deci, 2017).

Co-regulation for Autonomy and Well-Being

Because co-regulation states that the youth and parent relationship is bidirectional (Dietrich et al., 2012), it is likely that autonomy supportive parenting does not only affect the children, but that their children may also affect their approach to parenting. The strength of the study design allowed exploration of the co-regulation question by testing directionality of the effects that were found. Interestingly, instances were found where well-being affected perceived autonomy support. Depressive symptoms before the transition predicted a decrease in autonomy support after the transition for both the high school and post high school transition. Additionally, life-satisfaction before the transition predicted an increase in perceived autonomy support after the post high school transition, while autonomy support before transitions was not significantly related to changes in life satisfaction after any transition. Although it is not clear why autonomy support did not predict life satisfaction, it is possible that other environmental factors that play a role in SDT moderate this relationship, such as a structured home environment, parental mental health, and SES (e.g., Conger, Ge, Elder, Lorenz, & Simons, 1994).Future studies should examine what other environmental factors may affect the perceived parental autonomy support and well-being relationship. The bidirectional relationship between well-being and autonomy support is consistent with the idea of co-regulation. Developmental influences are rarely unidirectional, and so it should be considered that parents adapt their parenting approach to how adolescents deal with, and progress with, their development (Dietrich et al., 2012; Nurmi, 2004).

The significant relationship between pre-transition life satisfaction and an increase in post-transition parental autonomy support was only found for the post high school transition, and may have come from life satisfaction being seen as a proxy for general quality of life conditions. Accordingly, when general life conditions and resources are high and satisfaction is therefore high, parents may be more willing to increase autonomy support. Alternatively,

low life satisfaction may lead parents to attempt to have more control in their child's life in order to boost satisfaction. Indeed, when a child's life satisfaction is already sufficient in the eyes of a parent, the parents have no reason to be worried about their child's well-being and can thus provide the child with greater flexibility in autonomy. Likewise, parents that have children with depressive symptoms may feel more of a need to control their child with the thought of helping the child. Whether this is an adaptive or maladaptive response to poor mental health represents an important future research direction. It has to be kept in mind that in the current research I focus on patterns of relationships that were consistent across multiple transitions, as a measure of generalizability. The relationship between pre-transition life satisfaction and post-transition autonomy support was only found for the post high school transition. As such, I would suggest caution in interpreting these results until further research can be done.

Differences in Effects between Mothers and Fathers?

Most of the parental autonomy support research deals with either mothers' autonomy support or a composite of the parents. Little is known or understood about how mothers and fathers differ with regards to the effects of the autonomy support that they offer. Past research does suggest that there might be differences. Specifically, mothers and fathers have been shown to influence adolescents in different areas of their lives. While mothers are more influential on the adolescents' social environment, fathers appear to be more influential for goal oriented activities (e.g., Grolnick et al., 1996). Moreover, there are studies that have recorded differences between the effects of maternal and paternal autonomy support (e.g., Grolnick & Ryan, 1989; Grolnick et al., 1991; Soenens & Vansteenkiste, 2005), but a difference between the effects on well-being has not been tested before.

The current research focused on differences in maternal and paternal autonomy support. It was found that autonomy support was similar in structure across mothers and

fathers. It was also found that mothers tended to provide more autonomy support than fathers. Finally, a similar pattern of relationships between perceived autonomy support and well-being was found regardless of parental gender.

Taken together, the results suggest that adolescents benefit from autonomy support regardless of which parent it comes from. However, the lower mean levels of autonomy support from fathers indicated that this may be a particularly important group to target for parenting interventions. It is possible that lower levels of perceived paternal autonomy support were found because goal oriented activities, for which fathers are more influential, are generally less critical in adolescence than guidance in the social environment, for which mothers are more influential (Grolnick et al., 1996). Although consideration of the phrasing of the autonomy support questions should also be taken into account, the questions provided neutral conditions in which support was provided. Future research should aim to explore whether differentiation between mothers' and fathers' influence on adolescence truly affects the different autonomy need satisfaction across transitions, or whether fathers are simply perceived as less autonomy supportive. Additionally, previous research has found gender differences between effects of maternal and paternal parenting (e.g., Van der Giessen et al., 2014). Although student gender was controlled for in the current study, future research can look at the differential effects of each parent on their sons and daughters across transitions.

Evidence for Relation between Changes?

Changes in perceived autonomy support and well-being tended to be moderately related during the transition. Specifically, changes in life satisfaction and self-esteem showed changes concurring with the transitions. It is known in the literature that well-being changes with educational transitions (Eccles & Midgley, 1989), and that relationships with parents change during adolescence, particularly as a result of transitions (P. Parker, Lüdtke, et al., 2012). Throughout educational transitions adolescents do not only establish new relationships

in the educational environment, but also modify existing relationships in other social environments (J. Parker, Summerfeldt, Hogan, & Majeski, 2004). This idea is reflected by the increasing effect of parental autonomy support on depressive symptoms throughout the transitions in the current study. Because both well-being and relationships with parents change with educational transitions, it is reasonable to speculate that the common agent of the change that was found in autonomy support and well-being is the transition. Thus further research should gather data on the specifics of the transition, how it was managed, any notable events, and other adjustment indicators to identify the common factors that influence both well-being and the manner in which parents relate to their children.

Limitations

The current research has several strengths, including the use of longitudinal data and a focus on multiple transitions. However, there are also several limitations that readers should consider when interpreting the results. First, as with all longitudinal designs, there is a chance of third variable explanations of the current findings (Morgan & Winship, 2007). Although, cross-lagged models are commonly used to provide evidence of causal ordering (Duncan, Duncan, & Strycker, 2006), they cannot rule out unobserved variables that might influence the associations between perceived autonomy support and well-being across the transitions (Clark & Ladd, 2000). I have established the total effect of autonomy support on well-being for the educational transitions. Future research should investigate the potential mechanisms behind this relationship. For example, research has shown that the relationship between autonomy support and well-being is mediated by need satisfaction (e.g., Costa et al., 2015). Further studies can test this mediation at the educational transitions to see whether this is present at all transitions, helping explain mechanisms behind the effect that was found.

Further limitations are the use of self-report data, making the data subject to social desirability and common variance bias. This is particularly important in relation to autonomy

support which was perceived on the part of the child but may not represent objective support

the parents actually provide. Indeed, it is unclear whether results that show well-being affects

autonomy support indicate an actual change in autonomy support or indicate that children

with more depressive symptoms perceive their parents as becoming less autonomy

supportive. While measures of objective support are likely to be difficult and costly, future

studies could include observational methods and parent's perception of autonomy support.

This would provide evidence of general levels of agreement but also provide a means of

understanding whether perceptions of the child, regardless of the feelings of the parents or

objective reality, are what drive the results observed here. Furthermore, future studies could

examine what types of autonomy supportive parenting behaviour (e.g., taking the child's

perspective, providing relevant choices) in particular may affect a child's perception of

autonomy support.

The current study consisted of secondary data, which can be seen as another

limitation. The use of secondary data has both benefits and costs. Because it is secondary

data, I had no say in the scales or items that are used for the variables that were utilised. With

no control over available items, it often happens that short scales are used in replacement of

long scales. This furthermore resulted in the need to form an *ad hoc* measure of perceived

autonomy support. There was inconsistency between items available for the autonomy

support index at differing time points. Because of this, there was a need to create an

autonomy support index that was different at each transition (see supplementary material).

Although the creation of this index was done through both empirical and qualitative

investigation with the help of a leading researcher in the field, the lack of a consistent scale

across transitions made it difficult to compare the transition results on a quantitative basis. In

all cases, however, construct validity and reliability was very strong and there were strikingly

similar relationships across all three transitions. Regardless of this consistency, some of these

measures may not capture all facets of autonomy supportive parenting. For example, the measure used for the middle school transition does not capture a parents' provision of rationale. Particularly the autonomy support index used for the post-high school transition taps more into parental involvement and support than autonomy support as this measure does not specifically include provision of choice, provision of rationale, or empathy towards perspective. Despite differences in the sampling methods of the post high school transition data, the results related to well-being remained remarkably consistent. Based on the work of Shadish et al. (2002) this can be seen as a strength given that consistency in results across transitions rules out several potential confounding explanations including historical or period effects and, to some degree, instrument specific effects.

Given the use of secondary data, there were some differences from transition to transition. In the first transition autonomy supportive parenting was only available for the pre-transition wave. Likewise, autonomy support for the post high school transition did not distinguish between mothers and fathers. These differences meant that I focused exclusively on generalizability across transition in order to identify common processes. A primary study designed using consistent measures and following adolescents across major transitions is an important future step in order to consider differences between transitions. Furthermore, no covariates were available that have previously been associated with quality of the parent-child relationship, such as parent's mental health, family stressors, SES, or youth's temperament.

Although secondary data analysis has limitations, there are considerable benefits. Secondary data analysis made it possible to include three major educational transition points, and compare these transitions in a single study. Data on transition is often scarce, and those that cover multiple transitions are even rarer. In short, while using secondary data provided

complications, the current research provides a novel approach to leveraging value from existing data where primary sources are not currently available.

Conclusion

Findings that were statistically significant in at least two studies provide strongest evidence of generalizability and thus have the strongest implications for theory and practice. In the current study it was found that autonomy support from parents accounted for a decrease in depressive symptoms across all high school related educational transitions. In addition, a bidirectional effect was found for the high school and post high school transition for which depressive symptoms before the transition predicted decreased autonomy support across the transitions.

These findings also provide a better understanding of social contextual influences on transition by showing that autonomy support from both mother and father can function equally as a protective factor against ill-being during the educational transitions surrounding high school. Results also provide evidence of co-regulation. Not only does parenting affect the youth's well-being, but youth's well-being also appears to affect parenting. The reaction of parents who lower parental autonomy in response to a child's depressive symptoms may be well meaning but ultimately maladaptive. Alternatively, knowing whether to change parenting styles at educational transitions, in response to the individual circumstances of the child, could be beneficial. Future research needs to explore this problematic cycle.

The only other consistent finding (significant in high-school and post high-school transition and near significant for one group in the middle school transition) was that pre-transition parental autonomy support predicted increases in self-esteem across the transition. This suggests that autonomy support from parents not only helps prevent ill-being, but also promotes well-being. Based on these results it is important that parents understand the role they play in preparing their adolescents for educational transitions and their autonomy

support can provide a platform for adolescents flourishing as they move through their

educational careers.

Chapter 8: General Discussion and Conclusion

Past research has established that parenting influences youth in many ways. A review of this research however, reveals several common issues that require closer examination. The aim of this thesis was to explore the following issues: confusion about the relationship between the parenting styles of autonomy support and psychological control, varying approaches to measure parenting styles (e.g., parent and youth perceptions, reports regarding mothers and fathers), and the lack of regard for development and context in which parenting effects are tested. By seeking to resolve some of these issues it was then possible to answer substantive questions about the effects of parenting on youth's well- and ill-being. Three studies – one meta-analysis and two empirical studies – were included in this thesis to investigate these methodological and substantive questions. In this chapter the three studies are first briefly summarised, and then major points of integration are examined with implications for theory and research. Limitations and directions of future research are then discussed, finishing with an examination of practical implications.

Summary of Findings per Chapter

Meta-analysis. Chapter 5 used a meta-analysis to examine the relationship between autonomy supportive and psychologically controlling parenting. A moderate-to-large negative effect size was found for the relationship between autonomy support and psychological control, showing that the parenting styles are related but distinct. It was important to note that this relationship had considerable heterogeneity. Part of this heterogeneity was explained by the developmental stage of participants, which moderated the relationship between autonomy support and psychological control. Explained variance of developmental stages became more salient when combined with moderators of report type

(i.e., youth, parent, and observer) or report target (i.e., mother, father, and combined rating of parents).

Parenting perceptions. Measurement invariance was utilised in Chapter 6 to test whether different measurement types (i.e., youth and parent perception) and targets (i.e., maternal and paternal parenting) for parenting styles (i.e., autonomy support and psychological control) measure the same construct. Latent mean difference and correlations were further explored. These tests provided a basis for using structural invariance tests to explore nuances in the relationship between parenting styles and well- and ill-being, and how these relationships are moderated by different measurement approaches. This was tested with a Finnish adolescent sample and their parents. Measurement invariance was established, providing strong evidence that the same kind of parenting styles are measured no matter the measurement approach used. This provided a solid basis for comparing different groups. Such differences in means and correlations found within and between the parenting styles were mainly attributable to distinctions between youth and parent perceptions of parenting rather than differences between mothers and fathers. Both autonomy support and psychological control were found to be related to well- and ill-being. However, structural invariance showed that the relationship between parenting and well-being was moderated by differences between youth and parent perceptions for some well- and ill-being variables. Depressive symptoms and life satisfaction were only related to autonomy supportive parenting from youth's perceptive. Likewise, inadequacy was only related to psychological control from the youth's perspective. Cynicism was further only found to relate to psychological control from the parents' view.

Educational transitions. Chapter 7 explored whether autonomy support promotes positive changes in well-being and buffers against declines in mental health across several educational transitions. This was specifically tested for autonomy support from the youth's

perspective, with a distinction between maternal and paternal parenting, on Finnish samples across the middle school, high school, and post high school transitions. The results revealed that perceived autonomy support before the transition was related to a decrease in depressive symptoms and an increase in self-esteem after the transition. These findings were replicated across all three transitions for depressive symptoms, and across the high school and post high school transitions for self-esteem. Both maternal and paternal autonomy support were of equal importance in these results. There was evidence of co-regulation for depressive symptoms, meaning that depressive symptoms before the transition were also found to affect perceived autonomy support after the transition, for both the high school and post high school transition.

General Discussion of Findings

        Autonomy support and psychological control. Research often lacks clarity when defining parenting styles and distinguishing between them. This is particularly the case for autonomy supportive parenting and psychological control (*cf.* Soenens et al., 2007). Even though research has progressed understanding of the relationship between autonomy support and psychological control (e.g., Soenens et al., 2007; Soenens, Vansteenkiste, & Sierens, 2009), research still often uses autonomy support as the direct opposite of psychological control. This has led to measurement of autonomy support as reverse coded psychological control and vice-versa. Following is a discussion on how this thesis has shown that this approach is contentious.

        Consistent with a priori predictions, autonomy support and psychological control were found to be related but distinct in the meta-analysis (Chapter 5) and in the parenting perception study (Chapter 6; though see limitations section of Chapter 6). Based on key literature on the two parenting styles the moderate-to-large negative relationship from the meta-analysis was expected (e.g., Barber, 1996). The moderate-to-large negative relationship

showed that psychological control is not equivalent to the absence of autonomy, the way

Schaefer (1965) once established psychological control. This relationship thus suggested that

autonomy supportive and psychologically controlling parenting should be measured as

separate constructs, not as a continuum. This finding further signifies that research that relies

on reverse coded measures of autonomy support and psychological control to measure one

another may be limited (e.g., Liew, Kwok, Chang, Chang, & Yeh, 2014; Suchman,

Rounsaville, DeCoste, & Luthar, 2007). Such research is only able to tell us about the

absence of the parenting style measure used, not about the intended parenting style. Past

research was not able to come to a conclusion about the autonomy support and psychological

control relationship because of varying results and definitions, leading to the disagreement

about the nature of this relationship (see Silk et al., 2003). As such, heterogeneity in this

relationship, representing the disagreement within the literature, was found.

Most disagreement about the autonomy support and psychologically control

relationship is driven by the assumption that these constructs are fixed and largely context

independent. However, this thesis has raised the possibility that context matters, specifically

context in development. Heterogeneity in the relationship between the two parenting styles,

as found in the meta-analysis, was partially explained by the developmental stage of

participants, with the relationship strengthening across development. This finding will be

discussed in detail in the parenting in context throughout development section of the general

discussion, as it applies more to the significance of development when studying parenting,

This thesis presented both a meta-analysis and latent correlation analysis of the

relationship between autonomy support and psychological control, showing strong evidence

for treatment of the two parenting styles as two separate dimensions. This, in turn, shows that

researchers should be careful interpreting existing studies that use reverse coded measures of

autonomy supportive and psychologically controlling parenting to measure one another.

Future research should test for autonomy supportive and psychologically controlling parenting with independent measures. Failing to do so may hold back any progression in research to better understand the effects of parenting. The thesis further helped find that variance in the relationship between autonomy support and psychological control can be explained by age differences of samples used. This finding likely represents the parents' beliefs that parenting styles have to change throughout youth's development; though this may reflect a false belief as I discuss below.

The separate dimension approach supports that, at least over time, parents use both autonomy support and psychological control (Barber et al., 2002), demonstrating there are different times when parents may both satisfy and thwart their child's autonomy needs. This is however, the aggregation over time that leads to a correlation that is not perfectly negative. When measured at a given instant, autonomy support and psychological control are likely to be close to perfectly correlated, as was indicated by the strong correlation for observation studies (mentioned in the next section). These findings are similar to what has been found in the area of positive and negative affect: The two constructs are nearly independent when the time span covered is relatively long (e.g., how have you felt during the last year), but become increasingly negative as the time span narrows (how do you feel this week; Diener & Emmons, 1984). The overall moderate correlation that was found between autonomy supportive and psychologically controlling parenting across youth's development may thus represent parental uncertainty about what the correct parenting style to use is. The weaker correlations around early childhood and school age may reflect parents' hesitancy to fully support youth's autonomy needs, while parents become more consistent in their autonomy need support (or thwarting) as their child grows up, reflected by the increasing correlation around adolescence. Regardless of one's autonomy need being consistent across the life span (Ryan & Deci, 2017), parents may not all consistently support autonomy.

Measurement Approaches

When measuring parenting styles, little research considers distinguishing between measurement report types (i.e., youth, parent, or observer perceptions) or report targets (i.e., maternal or paternal parenting). Instead, most research focuses on youth's perceptions of parenting, specifically of maternal parenting (see Day & Acock, 2004; Grolnick et al., 1991). As discussed in the literature review, recent research has been addressing this limitation, but questions remained (e.g., Lansford et al., 2011; Janssen et al., 2015). In this thesis, a distinction has been made between parenting measurement approaches to explore whether research should be conscious of such distinctions, whether failing to do so may lead to incorrect interpretations of research, and consequentially, incorrect application of parenting interventions.

Measurement invariance was established in the parent perception study, providing strong evidence that the same kind of parenting styles are measured no matter the measurement approach used. This was found for both autonomy support and psychological control with distinctions between measurement types and targets. Although studies use different approaches to measure parenting, such as father's perception about their own parenting, or youth's perception about their mother's parenting, the results of these studies are often still compared and contrasted without relatively little consideration of the implication of these different measurement approaches (Sass & Schmitt, 2013). When such studies are compared, it is generally not considered whether the variation in measurement approaches still measure the parenting style intended and thus, whether different approaches to measure parenting can actually be compared and contrasted. Invariance found in this thesis between different approaches to measure the same parenting styles indicated that different approaches still appear to measure the same construct; at least in the context of the current research. Because these measurement approaches were found to measure equivalent

constructs, research can truly compare and contrast parenting measured from youth or parent perceptions regarding mothers and fathers. This thesis supports the notion that any difference between measurement approaches of a single parenting style are to be interpreted as attributions to the measurement approach itself, as different measurement approaches still measure the same construct. It is thus possible to test how different measurement approaches may manifest in different perceptions about parenting. This, in turn, allows research to explore the potential different effects that mothers and fathers have on their children, or the relevance that youth or parent perception may have over each other in regards to parenting.

Report types (who does the reporting). Since there are a variety of ways in which parenting can be measured, it is essential to compare and contrast the different report types (see Grolnick et al., 1991). The thesis presented distinct research designs to explore the possible differences between parenting measured through the youth's perception (the meta-analysis and parent perception study), parent self-report (the meta-analysis and parent perception study), and external observer perceptions (the meta-analysis). Inconsistent with a priori predictions made in the meta-analysis, different report types to measure parenting (i.e., youth, parent, and observer perceptions) did not moderate the relationship between autonomy supportive and psychologically controlling parenting. Instead, the variance in the relationship that was explained by developmental stages became more salient when used as moderator in combination with report types. This specifically indicated that the high negative relationship between the two parenting approaches around early childhood is substantially influenced by the number of observation studies conducted around that developmental stage.

As discussed in the literature review, the observation study approach, as originated from early behaviourists, is a functional approach to study behaviour, but is more frequently used for early childhood research (see Maccoby, 1992), and is generally based on momentary assessment rather than a more generalised assessment of the occurrence of parenting styles

(e.g., Bögels & van Melick, 2004). It is therefore not surprising that a high negative relationship between autonomy support and psychological control was specifically found around early childhood. The results of this meta-analysis however, only informed us of the relative difference between autonomy support and psychological control (i.e., how the parenting styles relate compared to each report type). The parenting perception study also addressed the absolute differences between report types (i.e., whether each report type differ in mean levels).

The parenting perception study confirmed the findings of the meta-analysis, that there are relative differences between autonomy support and psychological control relationships, depending on report type used to measure parenting. However, mean difference analyses also confirmed that there are absolute differences. Youth were shown to rate their parents lower on autonomy support and psychological control than parents did themselves. The psychological control finding was inconsistent with previous research that indicates that parents often describe less negative interactions than youth (Gonzales, Cance, & Mason, 1996). This contradictory finding may be the results of the use of a psychological control scale that could be seen as a more positive type of control (see Schwarz et al., 1985), as it mainly revolved around guilt induction as opposed to more coercive aspects of psychological control (see limitations and future directions).

Parents and youth are generally thought to describe their interactions differently because they look at their relationships through the lens of personal losses and gains (Noller, 1994). Previous research also shows that youth judge support from the family through general views about the family (e.g., I feel like my opinion is valued at home), as opposed to parents, who use a more personal evaluation (e.g., I value my child's opinion; Branje, van Lieshout, van Aken, 2002). This has led to speculations of measurement bias between parent self-report and youth perceptions of parenting, where youth are more likely to report negative parenting

than parents themselves (Collins & Laursen, 1992). Yet in this research parents reported a higher level of psychological control than youth reported. Simultaneous distinction between measurement of report types and targets unique to this thesis made it possible to unpack these findings. The distinction revealed that although youth and parent perceptions were positively correlated, perceptions of parenting were essentially uncorrelated between the youth's and fathers' perception. This discrepancy may be an indicator of the relationship between the parent and child (Maurizi, Gershoff, & Aber, 2012). Even though paternal roles are slowly changing, mothers generally still act as the dominant caregiver, leading to a greater chance to express a broader range of parenting styles and more opportunities for youth to develop a more complex and nuanced picture of their mother's parenting.

Parenting styles were shown to be related to well- and ill-being in the parenting perception study, but this relationship was found to be dependent on report type for some outcome variables. This thesis provided the first direct evidence that distinctions between the parent and youth perception of parenting styles moderate the relationship of parenting with well-being. Although this was only the case for a few variables, this is consistent with previous research that showed differential relationships between youth and parent perception of parenting (e.g., Bögels & Van Melick, 2004). The results indicated that different report types may affect interpretations of parenting effects on well- and ill-being. In fact, where moderation by report type was found, youth's perceptions were shown to be more strongly related to well- and ill-being than parents' perceptions. This confirmed why youth report of parenting is important (see Laursen & Collins, 2009). The effects of the objective parenting environment on well- and ill-being appears to be mediated by youth's perceptions. While youth perceptions of parenting styles may be biased, these perceptions have the most proximate effects on well- and ill-being.

As discussed in the literature review, it is not the objective quality but the meaningful functioning that establishes how a parenting style is perceived (Pelletier & Vallerand, 1996). Parents may use an objectively helpful approach to parenting that may not actually be experienced as beneficial by their child. Youth may therefore perceive parenting different from their parents, and so the relationship between perceived parenting and outcomes may demonstrate a greater effect than the relationship between the actual parenting style used and outcomes (e.g., see Brendgen et al., 2005). When relating this back to SDT, it is thus youth's perception of their autonomy being supported, or their subjective sense of need satisfaction, that may be most important for them to experience the benefits of self-determination.

Report targets (who the reporting is on). As discussed above, this thesis simultaneously distinguished between report types (i.e., parents and youth perceptions) and report targets (i.e., maternal and paternal parenting). Similar analyses were used to explore the report target distinction as the report type distinction discussed above. The thesis presented distinct research designs to explore differences between maternal parenting (all studies), paternal parenting (all studies), and combined reports on maternal and paternal parenting (the meta-analysis).

Similar results were found in the meta-analysis for report target as for report types. The moderator effect of developmental stages on the relationship between autonomy support and psychological control became more salient when the moderator was combined with report target. Although the relationship of the two parenting styles did not change much over time for maternal or paternal parenting, the combined report appeared to have a particularly weak relationship at early childhood. It was however, difficult to draw any conclusions from these outcomes, as only a small number of early childhood studies were included to support the finding.

The parenting perception study provided results on the absolute difference between maternal and paternal parenting for autonomy support and psychological control. Mother and father reports on parenting showed a moderate-to-large positive correlation, in line with previous findings (e.g., Luebbe et al., 2014). Parents are reaching out to the same child and are thus likely to influence each other's behaviour (Lansford et al., 2011), making maternal and paternal parenting interdependent (Minuchin, 1985). In contrast, latent mean difference analyses confirmed the predictions that mothers rate, or are rated, higher than fathers on both autonomy support and psychological control. Thus, while mother and father dyads are generally similar in parenting style (a local context effect relating to mutual influence and the same child), mothers tended to display more of both parenting styles (a macro-context effect reflecting a tendency for women to do most of the parenting labour). Both findings were generally expected (see Lansford et al., 2011; Luebbe et al., 2014).

Youth generally have more every-day social interactions with their mother compared to their father because of the macro-context of mothers. Children are thus able to aggregate interactions over a greater number and more diverse set of circumstances (Laursen & Collins, 2009). Fathers are still largely seen to devote more time with their children through recreational activities or leisure time, which may present more opportunities for youth to experience fathers as less controlling than mothers (Parke, 2002). While parents largely see themselves as similar in their approach to parenting, youth are only able to judge parenting by the time actually spent with each parent.

Given potential differences between maternal and paternal parenting, we sought to examine whether these different parenting perceptions between mothers and fathers actually leads to different relationships between parenting and outcomes. In accordance with a priori predictions, parenting style was shown to be an important predictor of well- and ill-being, with few distinctions between maternal and paternal parenting. Autonomy support and

psychological control similarly related to well-being for reports on both parents in the parenting perception study. This was, again, likely because one's parents' behaviour is contingent on how the other parent behaves (Lansford et al., 2011). Results from the transition study (Chapter 7) further confirmed this with longitudinal data. Although this study showed that mothers tended to provide more autonomy support than fathers across adolescence, autonomy support tended to have similar relationships with change in well-being regardless of the parent reported on. Despite the differences in the degree to which parents have certain interactions, the parenting itself still has the same effects. Put simply, the mechanisms involved are the same regardless of whether a particular parenting style emanated from mothers or fathers. The difference was largely one of degree only.

In summary, this thesis provided evidence that it is the differences between child and parent perceptions that moderate the relationship between parenting and well- and ill-being. It further provided longitudinal evidence that mothers and fathers do not differentially affect youth's well- and ill-being. The findings in this thesis thus show that research has to clearly distinguish between youth and parent perceptions when drawing conclusions about their findings, and that youth perception of parenting is often more indicative of well- and ill-being outcomes than the parents' perception. A distinction between mothers and fathers does not appear to be important to see how parenting influences outcomes, but conclusions drawn from parent perceptions may not be as meaningful as conclusions drawn from youth perceptions of parenting. Since youth perception has a more proximate effect on well-being, there is a need for research that a) determines the accuracy of youth's perspectives, b) whether and of what type systematic biases may emerge, and c) how these perceptions may be better aligned to objective reality if they are indeed systematically biased.

Differences from measurement approaches in means and correlations with and between autonomy support and psychological control mainly came from distinctions between

youth and parent perceptions. A few differences were further found between perceived maternal and paternal parenting even though mothers' and fathers' parenting has been shown to be interdependent (Lansford et al., 2011). The lack of differential effects between maternal and paternal parenting could be explained via SDT principles (Ryan & Deci, 2017). Namely, as long as one of the parents does not heavily thwart youth's needs, youth may still be able to have their need satisfied by the other parent. Thus, in the current findings, if youth perceive their mother as particularly psychologically controlling compared to the father, their father may still be able to satisfy youth's autonomy need. If true, this would demonstrate the importance of a two-parent household, as having two parents may buffer youth's need support when one of the parents is unable to provide appropriate support. This assumed advantage of a two-parent household however, should not distinguish between gender compositions of the parenting dyad, and is unlikely to apply if both parents thwart need satisfaction. This speculation about benefits of a two-parent household should be investigated in future studies.

Parenting in Context throughout Development

To ascertain the practical use of parenting it is essential to understand the relative effects of parenting on well- and ill-being while considering development in context. As discussed in the literature review, it was sociologists who suggested that it is important to take into account both development and context when exploring the role families have on their children (Bronfenbrenner & Morris, 2006; Sameroff, 2010). Meaningful contexts to test these potential changes are times when youth have to deal with multiple developmental tasks. Satisfaction of autonomy support plays a major role in the way youth cope with these developmental tasks (Véronneau et al., 2005). In this thesis, parenting was explored in the context of educational transitions as this is a period when youth have to navigate many developmental tasks at once.

Parenting in the transitional context. The context of educational transitions presents a potent natural experiment to understand the effectiveness of parenting in developmentally stressful periods (Dietrich et al., 2012). Parenting effects over educational transitions represent a measure of successful adjustment to new situational affordances and constraints that result from entering a new phase of development. In this thesis, well- and ill-being was used as an indicator of a successful transition (Eccles & Midgley, 1989).

In the transition study, it was found that youth's perceptions of autonomy supportive parenting, before transitions, led to decreased depressive symptoms and increased self-esteem, after educational transitions. These findings are consistent with previous literature that shows autonomy support decreases depressive symptoms and increases self-esteem (Brennin, Soenens, Van Petegem, & Vansteenkiste, 2015; Soenens et al., 2007), and studies that show autonomy support is predictive of positive adjustment (e.g., Joussemet, Koestner, Lekes, & Landry, 2005). In this thesis however, it was specifically found that autonomy supportive parenting, of both parents, worked as both a protective and promotive factor for the adjustment of young individuals traversing educational transitions. A successful transition relieves stress, increasing well-being, which is related to better goal outcomes and increased motivation (Eccles & Midgley, 1989). Here, parental autonomy support appears to ease that stress, likely leading to increased transitional goal attainability (Salmela-Aro & Little, 2007).

Co-regulation. The transition study evaluated evidence of co-regulation, the idea that parenting does not only affect youth, but that young individuals also influence their parents (Dietrich et al., 2012). It was found that autonomy supportive parents before transitions did not only affect depressive symptoms after the transitions, but also that depressive symptoms affected perceived autonomy support after the transitions (see also Van der Giessen et al. 2014). This change in parenting could be associated with the parents' intent to help their child, even though such a change is contrary to what would actually benefit their child. This

counterproductive change in parenting demonstrates the importance of parents'

understanding of how their parenting may affect youth. In the short term, it may seem easier

to use less autonomy support when helping young individuals with depressive symptoms, but

this is counterproductive in long term.

There is a range of literature that examines youth's behaviour and experiences and its

influence on parents' behaviour. For example, parents have been shown to become more

controlling when children show poor performance in school (Grolnick, Gurland, Jacob, &

DeCourcey, 2002; Pomerantz & Eaton, 2001). Early parenting research starting with

psychodynamics theory of socialisation, as discussed in the literature review, perceived

parenting as unidirectional (i.e., parent affecting the child only). It was not until the last 30

years that parenting has been studied from a more interactionist approach (i.e., parent and

child affecting each other; Patterson, Reid, & Dishion, 1992). Nonetheless, compared to our

understanding of parenting effects on youth, evaluation of the effects youth have on their

parents has thus far been rather scarce in the literature. If development is a joint project co-

operatively shared by parents and children, then bi-directional influences need much greater

attention.

Parenting throughout development. Early ideas about child socialisation discussed

in the literature review, such as that of classic psychodynamic theory, early behaviourist

theory, and early use of parenting styles, focused solely on early childhood. These theories

failed to consider the important role of parents in adolescence and beyond. Although classic

psychodynamic theory recognised the importance of development with the idea of

psychosexual stages, this too, only revolved around early childhood development (Freud,

1991). Modern parenting research recognises the importance of parenting past early

childhood, but still fails to address the development in context (Bronfenbrenner & Morris,

2006). Since relevance of socialisation changes with developmental tasks (Laursen &

Bukowski, 1997), it is clear that parenting and developmental tasks do not exist in a vacuum. It is for that reason that parenting should not be, and was not, researched without consideration of child development in this thesis.

As discussed in the section on the relationship between autonomy support and psychological control the relationship between these parenting styles was moderated by developmental stages of the participants. The meta-analysis showed that the strength of this relationship appeared to grow stronger with age, with a monotonic increase in the relationship from school age to emerging adulthood, possibly indicating a change in parenting styles used. Although SDT distinctly shows individual needs for autonomy are consistent across development (Ryan & Deci, 2017), this does not mean that autonomy is consistently provided by parents across the lifespan. As discussed in the literature review, past research has shown that parents still appear to try to balance between autonomy and control around adolescence (Nelson et al., 2011), often leading to the additional conflict in families that is characteristic of adolescence (Allen et al., 1996). Indeed, Ryan and Deci (2017) suggest that young children's autonomy needs are often undercut by parents' failure to recognise this need in them. Youth's need for autonomy may be consistent, but this change in the relationship between autonomy supportive and psychologically controlling parenting may represent the parents' response to the youth's development.

To remind readers of a point made in the meta-analysis chapter, a possible explanation of the strengthening relationship across development is that parents may have to reduce complexity of their parenting approach once youth experience more intense developmental pressures around adolescence. This may lead to more use of one of the parenting styles, creating a type of "parenting polarisation". Parents may choose to use relatively more psychological control in reaction to the youth's increasing risk behaviour (Arnett, 2007), or relatively increase autonomy support to maintain facilitation of their child's

need. This can be compared to the increase in political polarisation, an effect found in politics when issues become more pertinent (Oosterwaal & Torenvlied, 2010).

Another reason for the increasing negative relationship between autonomy supportive and psychologically controlling parenting throughout development may be youth's simultaneous cognitive development. As children get older they may form a more sophisticated conceptual understanding of their parents' behaviour, perceiving a relationship between the two parenting styles. Growing perceived association between constructs with development has been shown in previous research (e.g., Chen et al., 2015; Marsh & Ayotte, 2003). However, the increasing relationship between autonomy supportive and psychologically controlling parenting was found for both youth and parent perception of parenting in the meta-analysis, demonstrating that this change cannot be attributed to youth's developing cognition.

Last, as Bowlby (1973) assumed, some parents may see the changing ways in which youth's autonomy needs are satisfied as a slow pathway to separation. To protect themselves against the potential threat of loss, parents may turn to more controlling and less autonomy supportive parenting approaches. It is however, not possible to say this with certainty, as the negative effect size of the autonomy support and psychological control relationship alone is not enough to interpret whether autonomy support decreases when psychological control increases, vice versa, or both. Nonetheless, the thesis hints at a shift in the use of autonomy supportive and psychologically controlling parenting throughout development.

This thesis further explored development in context with the transition study. The effect of autonomy supportive parenting on youth's well- and ill-being was examined for three transitions. Overall results across the middle school, high school, and post high school transition were strikingly similar. Autonomy supportive parenting before the transition related to decreases in depressive symptoms for all transitions, and increases in self-esteem

after the high school and post high school transitions. By testing this relationship across three major educational transitions, this thesis has taken into account the need to consider adjustment of the participants from a developmental life-span perspective, with multiple changes in contextual affordances and constraints (Bronfenbrenner & Morris, 2006). These results support the SDT framework with the idea that a relationship with parents where trust and volitional choice is provided remains important, even as the relationship of young individuals and their parents change when youth become increasingly self-sustaining with a greater support network outside the family context (Ryan & Deci, 2017).

From the transition study it is clear that autonomy supportive parenting is beneficial for youth from before the middle school transition all the way to the post high school transition. Yet the meta-analysis shows that parents appear to change their approach to parenting as youth grow up. This change in parenting is to some degree backed by stage-environment fit theory (Eccles & Midgley, 1989) explored in the literature review. To remind the reader, in this theory, the mismatch between youth's changing needs and their need support, caused by the changing environment (e.g., developmentally regressive changes in the educational environment during transitions), may result in decreasing well-being (Eccles et al., 1993). However, as was found in the transition study, and as supported by SDT (Ryan & Deci, 2017), it appears that autonomy support is beneficial throughout development. Thus, if autonomy needs are consistent across the life span, stage-environment fit's assumption that youth's autonomy needs change with development may be mistaken. Parents may change their parenting, as apparent from the meta-analysis, but they do not have to. It may be that parents should only change the content of their parenting (e.g., age-appropriate language) to match youth's growing cognitive and psychical capabilities. But parenting styles should remain dominantly autonomy supportive across development (see Ryan & Deci, 2017).

In summary, as has been shown in SDT, even when young individuals become increasingly self-reliant and independent from parents, parental autonomy support remains influential (Ryan et al., 2006; Ryan & Deci, 2017; Soenens & Vansteenkiste, 2010). As discussed in the literature review, parenting in general improved over the years, moving from external corporal punishment as standard, to the increasing recognition of the youth's need for internalisation (Pollock, 1983). Regardless, research should further explore parents' provision of need support at all stages of development to further improve the understanding of the use of parental styles.

Autonomy supportive parenting was shown to be both a protective and promotive factor for well-being in the context of educational transitions. As previous research has shown, autonomy supportive parenting leads people to engage in personally valuable and interesting behaviours which lead to well-being (Ryan & Deci, 2017). Here it was found that autonomy support around educational transitions lead to well-being, likely indicating that autonomy supportive parents provide an environment where youth can set personally interesting goals and work towards these goals with the support of their parents. This in turn helps youth successfully negotiate and attain their goals (Dietrich & Salmela-Aro, 2013), and positively affects their vocational behaviour, identity processes, and processes of goal attainment (i.e., goal setting, striving, and disengagement; Salmela-Aro, 2013). It is clear that transition success is greatly affected by social context, not just personal capacities. Thus, autonomy support from parents may serve as a substitute for autonomy satisfaction from the direct educational environment, when young individuals may experience a mismatch between the need for autonomy and autonomy satisfaction from the educational environment after transitions (Midgeley et al., 2002; Ryan & Deci, 2017).

Although youth's autonomy needs *do not* change throughout development (Ryan & Deci, 2017), the ways through which these needs are satisfied appear to change. This thesis

shows that parent approaches to parenting change throughout development and that changes in parenting is co-regulated, supporting the idea that development is a transactional process (Beveridge & Berg, 2007). Thus, the parent-youth processes should be part of a developmental model, and a developmental model should be sensitive to changes with age and development for both constituents of the model. Simply examining parenting at a single developmental stage fails to encapsulate the complexity behind the parent-youth interaction.

Limitations and Future Directions

This thesis exclusively used secondary data to explore the questions raised in this thesis. The use of existing databases and data from studies has potential limitations. These limitations have been described in detail in the secondary data analysis section of Chapter 4 and each study's respective chapter, but to remind the reader, some of the limitations are as follows.

Potential secondary data limitations of this thesis include third variable explanations of findings (Morgan & Winship, 2007), or absence of contextually relevant covariates or moderators in analyses; lack of choice of scales or items that were used for the studied variables; and the requirement to formulate hypotheses and questions around the fit of the data where possible. I choose to use such data however, as it allowed for extensive analyses in a manner that would have normally not been possible given the time and cost constraints involved in such research. Certainly the critical findings regarding a) the relationship between autonomy support and psychological control; b) differences in parenting research when using a variety of approaches to measure parenting styles; c) the importance of autonomy supportive parenting across the middle school, high school, and post high school transition; and d) bi-directional effects of parenting (i.e., youth's behaviour also affecting parenting), derived from such data are critically important and provide basis for further targeted research. Below I suggest how the current research could be expanded upon in future research.

Multi-faceted longitudinal study. A multi-faceted longitudinal study of parent-child interactions over adolescence could be developed to build upon the findings in this thesis. Multiple measures of autonomy supportive and psychologically controlling parenting, as well as observer ratings or embedded diary studies, could provide a means of determining how the relationship between these parenting styles change with development and at what level of temporal and developmental abstraction. For example, I suggested in the meta-analysis that the relationship between the use of autonomy support and psychological control may be changing because of "parenting polarisation" once developmental pressures intensify, whether parents truly either choose to facilitate autonomy or use more controlling behaviour to direct risk behaviour once developmental pressures intensify. I also suggested that youth see their mother as more controlling and autonomy supportive than their fathers as they may be able to aggregate their perception of parenting over a more diverse set of circumstances. Ecological momentary assessment (EMA; i.e., continuous sampling of participants' behaviours and experiences in real time on a daily basis) contrasted with more general survey methods could be used to test the suggested hypotheses. Contrasting EMA with different measurement approaches (e.g., youth and parent perceptions) would further allow for accurate tests of parenting effects on any developmental outcomes. Of course, longitudinally research over an entire developmental period may be prohibitively expensive. However, the use of cohort sequence (or otherwise known as accelerated) design may overcome this difficulty.

Future research could evaluate youth's psychological needs and need satisfaction across development to evaluate whether such needs are stable (Ryan & Deci, 2017). If such needs do not change, parents may need to refrain from changing their parenting style as youth grow up. This type of change has never directly been tested. Yet it is important to understand the developing individual and the potential change in nature and developmental significance

of the youth's relationship with their parents (Laursen & Collins 2009). A study with

consistent varying approaches to measure parenting, consistent use of accurate autonomy

support and psychological control with additional parenting scales, and a sample size that

allows for optimal analyses, across multiple developmental stages, paired with more frequent

reports, will further build on the current findings. Such a study would provide a) more

detailed conclusions on the effect of parenting styles as youth grow, b) clarification on

whether youth truly affect parenting style use or whether this change is only perceived (e.g.,

Hale, VanderValk, Akse, & Meeus, 2008), and c) further explanation of the way in which

measures of parenting interrelate or even interact.

       Environmental factors. This thesis contextualises parenting during critical

developmental challenges. However, I propose a multi-contextual study that deals with a

range of environmental factors to account for the lack of contextually relevant covariates or

moderators in the thesis. Previous studies have demonstrated a variety of environmental

factors that are associated with quality of the parent-child relationship such as parents' mental

health, general family stressors, SES, and youth temperament (e.g., Hoff et al., 2002; Kiff et

al., 2011). As argued in this thesis, parenting does not happen in a social-vacuum, and there

are thus many other factors that may influence parenting (Ryan & Deci, 2017). For example,

existing research has well established that developmental challenges are even more

challenging when parents do not earn enough income to sufficiently support their children

(see Conger & Elder, 1994; Laursen & Collins, 2009).

       By conducting longitudinal surveys on environmental factors (e.g., changes in SES,

family structure, and parents' mental health) it is possible to answer questions about parents'

ability to provide different types of parenting styles under a variety of circumstances. This

could be especially insightful when simultaneously testing for adolescents' functioning while

traversing multiple developmental tasks (e.g., career choice, gaining social responsibility,

becoming self-sufficient, and establishing relationship with peers). Such a study could answer questions about the consistency of parenting style effects under different circumstances, in a variety of contexts, across development. I hypothesised in the general discussion that young individuals may only require their needs to be satisfied by one parent as long as the other parent does not thwart their needs, which would explain how maternal and paternal parenting show the same effects regardless of differences in means. The study proposed here could test such a hypothesis for different developmental tasks in different contexts, with extensive data on family circumstances and other environmental factors. This study could further answer questions about heterogeneity of parenting between families; why some families may be more likely to use certain parenting styles (see Keijsers, Voelkle, Maciejewski, Branje, Koot, Hiemstra, & Meeus, 2016). It is important to ensure that findings are helpful for all families or at least understand what works best for a variety of family circumstances. Just like how only a favourable economic environment gave rise to autonomy supportive parenting (Bonvelet et al., 2014), autonomy support has to be feasible even for families that do not support autonomy to begin with, for divorced families, and for families that deal with other stresses.

Components of parenting styles. Last, research needs to be done that does not only contrast global levels, but also constituent parts of parenting styles (e.g., guilt induction and love withdrawal in psychological control). A large sample study with two time waves that administers multiple well-established parenting style scales, with subcomponents, would make it possible to not only compare and contrast parenting styles on multiple levels, but also test the effects of each constituent part of parenting styles. Although the benefits of global level analyses of parenting styles have been well-established, some more specific parenting styles are less well examined (e.g., the constituent parts of psychological control).

The study proposed here would test each parenting style for potential criticism that Baumrind's (1966) parenting typologies also got accused of, namely, the potential inability of some parenting styles to show exactly which behaviour of each style actually leads to beneficial outcomes for youth (Lewis, 1981). Understanding the constituent parts of parenting styles is especially relevant for the construct of psychological control, for which it was suggested in Chapter 6 that guilt induction may not be as debilitating as other aspects of psychological control, such as withdrawal of love, personal attacks, and parents' expression of shame and disappointment. This suggests interesting hypotheses about the imbalance in negative effects from different components of the psychological control construct.

The proposed study would be able to test whether each component of parenting styles is as qualitatively adaptive or maladaptive as is currently assumed, which would, in turn, inform practitioners about the key behavioural components of parenting styles that should be targeted during interventions. Parenting research is full of references to parenting styles that, while using similar terms, are different or even contradictory (see Pomerantz & Ruble, 1998). It is thus essential to properly define the structure of each parenting style and understand differential effects of each parenting style's subcomponent.

Implications for Practice

Previous research has established that clinical parenting interventions are effective in changing parenting styles used by parents (e.g., Deci, Connell, & Ryan, 1989; Su & Reeve, 2011; Joussemet, Mageau, & Koestner, 2014; Ryan & Deci, 2002). In fact, such interventions have shifted from clinical intervention models to community intervention models for community applications like school, with a proactive recruitment of parents for a preventative approach (Stormshak, Dishion, Light, & Yasui, 2005). The effectiveness of parenting interventions to increase the use of autonomy support has been reported from both youth and parent perspectives, and has been shown to have positive effects on well- and ill-being (e.g.,

Depestele, Claes, & Lemmens, 2015; Joussemet, Mageau, & Koestner, 2014). It is the task of researchers to help parents understand consequences of their approach to parenting and help clinicians understand the best ways to apply family interventions. The following implications of this thesis apply to informing parenting interventions.

Considering this thesis found that a parents' perspective of parenting is not always predictive of parenting outcomes, parenting interventions should not target parents alone, but also their children. It may be best to take a family approach to clinical parenting interventions to see whether difficulties with youth originate from the parents' behaviour, the youth's perception of parenting, or both. The child's situation (e.g., mental health) may not only stem from complicated family situations, but may also affect the child's perception of the parents' approach to parenting,

Interventions could target parents to teach them the importance of autonomy support, encouragement of volitional functioning, and the potential negative effects of the use of psychological control (Sher-Censor, Parke, & Coltrane, 2011). By including children in the intervention process it becomes possible to also target issues that may affect the youth's perception of the parent and potential issues with children negatively affecting the parent's behaviour. Previous research has shown that such a family-centered approach to parenting interventions is also effective for mental health problems across development (Dishion & Stormshak, 2007), and would thus make for a cost-effective method to target both behavioural and mental health problems.

Interventions may also need to consider both parenting styles simultaneously, because it was shown that autonomy supportive and psychologically controlling parenting are related but distinct. An increase in perceived autonomy support, especially at younger ages, is not guaranteed to decrease perceived psychologically controlling parenting and vice-versa. Because the relationship between the two parenting styles was found to differ by

developmental stage, the age of the child may also have to be taken into account for a refined understanding of how youth may perceive one parenting style and how this may affect perceptions of the other.

Finally, the thesis has demonstrated that autonomy support from parents can act as both a protective factor against ill-being and promotive factor for well-being for students going through the middle school, high school, and post high school transitions. Promoting young individuals' well-being is essential for youth to be able to tackle tough developmental tasks to their full ability. It may be easier for youth to traverse educational transitions when their parents provide them with empathy, take their point of view, provide reasons for behaviour, give choices, offer guidance rather than demands, and provide discourse about values (Ryan & Deci, 2017). This may make it easier for children to identify their own struggles and concerns, support well-being, and protect against ill-being. Thus, this thesis supports other research that shows that parenting style is closely linked to youth well-being, and demonstrates that it is essential to evaluate and educate parenting in the general population, to foster optimal parenting (e.g., Joussemet, Mageau, & Koestner, 2014).

Conclusion

In conclusion, this thesis has presented three studies that address key issues about parenting research. Autonomy supportive and psychologically controlling parenting are related but distinct, and this relationship is moderated by developmental stages. Thus, it is essential that research uses distinct measures of the parenting styles, and that, in practice, interventions target both parenting styles. Additionally, for both autonomy support and psychological control it is the differences between youth and parent perceptions that moderate the relationship of parenting with well- and ill-being when a variety of parenting measurement approaches are used. Research needs to consider the distinction between youth and parent perceptions about parenting, and clinical parenting interventions should aim to use

a family-centered approach that can target both parents' and youth's perspectives and

behaviour. Last, the thesis presented effects of parenting in the context of educational

transitions across multiple developmental stages. Autonomy supportive parenting served as

both a protective factor against ill-being and a promotive factor for well-being. It is important

for parents to understand the role they play in their child's preparation for educational

transitions, and how this support may provide a platform for youth to thrive. This thesis

presented the importance of testing the effectiveness of parenting in context, across

development, with rigorous measurement approaches. This thesis has been able to provide

answers and some solutions to issues in existing research, and has provided substantial

suggestions to deal with some of these issues, to help accurately inform parenting research,

practices, and interventions.

References

*References marked with an asterisk indicate studies included in the meta-analysis.

Ahn, S., Ames, A., & Myers, N. (2012). A review of meta-analyses in education: Methodological strengths and weaknesses. *Review of Educational Research, 82,* 436– 476. doi:10.3102/0034654312458162

Ahtola, A., Poikonen, P. L., Kontoniemi, M., Niemi, P., & Nurmi, J. E. (2012). Successful handling of entrance to formal schooling: Transition practices as a local innovation. *International Journal of Transition in Childhood, 5*, 3-21. Retrieved from https://extranet.education.unimelb.edu.au/LED/tec/pdf/journal5_ahtola.pdf

Akos, P. (2006). Extracurricular participation and the transition to middle school. *Research in Middle Level Education Online, 29*, 1-9. Retrieved from http://files.eric.ed.gov/fulltext/EJ804106.pdf

Allen, J. P., Hauser, S. T., O'Connor, T. G., Bell, K. L., & Eickholt, C. (1996). The connection of observed hostile family conflict to adolescents' developing autonomy and relatedness with parents. *Development and Psychopathology, 8*, 425-442. doi: 10.1017/S0954579400007173

*Anderson, V. D. (2007). *Religiosity as it shapes parenting processes in preadolescence: A contextualized process model* (Doctoral dissertation). Available from ProQuest Dissertation and Theses database. (UMI No. 3231775)

Arnett, J. J. (2006). Emerging adulthood: Understanding the new way of coming of age. In J. Arnett & J. Tanner (Eds.), *Emerging adulthood: Coming of age in the 21st century* (pp. 3-19). Washington, DC: American Psychology Association.

Arnett, J. J. (2007). Socialization in emerging adulthood: From the family to the wider world, from socialization to self-socialization. In J. E. Grusec & P. D. Hastings (Eds.),

Handbook of socialization: Theory and research (pp. 208-231). New York, NY: The Guildford Press.

Aunola, K., & Nurmi, J. E. (2004) Maternal Control Moderates the Impact of Psychological Control on a Child's Mathematical Performance. *Developmental Psychology, 40,* 963-978. doi: 10.1037/0012-1649.40.6.965

Aunola, K., Ruusunen, A., Viljaranta, J., & Nurmi, J. E. (2015). Parental affection and psychological control as mediators between parents depressive symptoms and child distress. *Journal of Family Issues, 36*, 1022-1042. doi: 10.1177/0192513X13494825

Aunola, K., Tolvanen, A., Viljaranta, J., & Nurmi, J. E. (2013). Psychological coltron in daily parent-child interactions increases children's negative emotions. *Journal of Family Psychology, 27*, 453-462. doi: 10.1037/a0032891

Baldwin, A. L. (1948). Socialization and the parent-child relationship. *Child Development, 19*, 127-136. doi: 10.2307/1125710

Baldwin, A. L. (1955). *Behavior and development in childhood*. NY: Dryden Press

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. doi: 10.1037/0003-066X.52.4.366

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*, 3296-3319. doi: 10.1111/j.1467-8624.1996.tb01915.x

Barber, B. K. (1997). Introduction to adolescent socialization in context—The role of connection, regulation, and autonomy in the family. *Journal of Adolescent Research, 12*, 287-315. doi: 10.1177/0743554897121002

Barber, B. K. (2002). *Parental psychological control of children and adolescents*. Washington, DC: American Psychological Association.

Barber, B. K., Bean, R. L., & Erickson, L. D. (2002). Expanding the study and understanding of psychological control. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 263 – 289). Washington, DC: American Psychological Association.

Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parental psychological control of children and adolescents. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 15-52). Washington, DC: American Psychological Association.

Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development, 65*, 1120-1136. doi:10.1111/j.1467-8624.1994. tb00807.x

Barber, B. K., Stolz, H. E., Olsen, J. A., Collins, A., & Burchinal, M. (2005). Parental support, psychological control, and behavioural control: Assessing relevance across time, culture, and method. *Monographs of the Society for Research in Child Development, 70*, 1-147. doi: 10.1111/j.1540-5834.2005.00365.x

Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin, 37*, 1459–1473. doi:10.117/0146167211413125

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529. doi: 10.1037//0033-2909.117.3.497

Baumrind, D. (1966). Effects of authoritative control on child behavior. *Child Development, 37*, 887-907. doi: 10.2307/1126611

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75*, 43–88. doi: 10.4135/9781473915435

Baumrind, D. (1970). Socialization and instrumental competence in young children. *Young Children, 26*, 104-119. Retrieved from http://www.jstor.org/stable/42642147

Baumrind, D. (1978). Parental disciplinary patterns and social competence in children. *Youth & Society, 9*, 239-276. doi: 10.1177/0044118X7800900302

Baumrind, D. (2013). Authoritative parenting revisited: History and current status. In R. E. Larzelere, A. S. Morris, and A. W. Harrist (Eds.), *Authoritative parenting: Synthesizing nurturance and discipline for optimal child development* (pp. 11-34). Washington, DC: American Psychological Association.

Baumrind, D., & Black, A. E. (1967). Socialization practices associated with dimensions of competence in preschool boys and girls. *Child Development, 38*, 291–327. doi: 10.2307/1127295

Bean, R. A., Barber, B. K., & Crane, D. R. (2006). Parental support, behavioral control, and psychological control among African American youth. *Journal of Family Issues, 27*, 1335-1355. doi: 10.1177/0192513X06289649

*Bean, R. A., & Northrup, J. C. (2009). Parental psychological control, psychological autonomy, and acceptance as predictors of self-esteem in Latino adolescents. *Journal of Family Issues, 30*, 1486-1504. doi: 10.1177/0192513X09339149

Becker, W. C. (1964). Consequences of different kinds of parental discipline. In M. L. Hoffman & L. W. Hoffman (Eds.), *Review of child development research* (Vol. I, pp. 169-208). NY: Russell Sage Foundation.

Belsky, J., Crnic, K., & Gable, S. (1995). The determinants of coparenting in families with toddler boys: Spousal differences and daily hassles. *Child Development, 66*, 629–642. doi: 10.1111/j.1467-8624.1995.tb00894.x

Benedict, R. (1949). Continuities and discontinuities in cultural conditioning. In P. Mullahy

    (Ed.), *A study of interpersonal relations*. NY: Hermitage.

Bentler, P., & Woodward, J. (1980). Inequalities among lower bounds to reliability:With

    applications to test construction and factor analysis. *Psychometrika, 45,* 249–267. doi:

    10.1007/BF02294079

Beyers, W., & Goossens, L. (1999). Emotional autonomy, psychosocial adjustment, and

    parenting: Interactions, moderating and mediating effects. *Journal of Adolescence, 22*,

    753-769. doi: 10.1006/jado.1999.0268

Black, A. E., & Deci, E. L. (2000). The effects of instructors' autonomy support and students'

    autonomous motivation on learning organic chemistry: A Self- Determination Theory

    Perspective. *Science Education, 84*, 740-756. doi: 10.1002/1098-237X

Blustein, D. L., Walbridge, M. M., Friedlander, M. L., & Palladino, D. E. (1991).

    Contributions of psychological separation and parental attachment to the career

    development process. *Journal of Counseling Psychology, 38*, 39-50. doi:

    10.1037/0022-0167.38.1.39

*Bögels, S. M., & van Melick, M. (2004). The relationship between child-report, parent self-

    report, and partner report of perceived parental rearing behaviors and anxiety in

    children and parents. *Personality and Individual Differences, 37*, 1583-1596. doi:

    10.1016/j.paid.2004.02.014

Bögels, S. M., van Oosten, A., Muris, P., & Smulders, D. (2001). Familial correlates of social

    anxiety in children and adolescents. *Behaviour Research and Therapy, 39*, 273–287.

    doi: 10.1016/S0005-7967(00)00005-X

Bonvalet, C., Clément, C., & Ogg, J. (2014). *Renewing the family: A history of the baby

    boomers*. Switzerland: Springer International Publishing

Booth, A. (2011). Searching for studies. In J. Noyes, A. Booth, K. Hannes, A. Harden, J. Harris, S. Lewin, & C. Lockwood (Eds.), *Supplementary guidance for inclusion of qualitative research in Cochrane systematic reviews of interventions*. London, UK: Cochrane.

Borenstein, M., Hedges, L.V., Higgins, J. P. T., Rothstein, H. R. (2009). *Introduction to meta-analysis*. West Sussex, UK: John Wiley & Sons.

Bowlby, J. (1973). *Attachment and loss: Separation anxiety and anger* (Vol. 2). London: Hogarth.

Boyce,W. T., Frank, E., Jensen, P. S., Kessler, R. C., Nelson, C. A.,& Steinberg, L. (1998). Social context in developmental psychopathology: Recommendations for future research from the MacArthur Network on Psychopathology and Development. *Development and Psychopathology, 10*, 143–164. doi: 10.1017/S0954579498001552

Boyes, M. C., & Allen, S. G. (1993). Styles of parent-child interaction and moral reasoning in adolescence. *Merrill-Palmer Quarterly, 39*, 551-570. Retrieved from http://www.jstor.org/stable/23087249

Bradford, K. P, & Barber, B. K. (2005). Intrusive and coercive family processes: Interparental conflict and ineffective parenting. *Journal of Emotional Abuse, 5*, 145-170. doi: 10.1300/J135v05n02_07

Branje, S. J. T., van Lieshout, C. F. M., & van Aken, M. A. G. (2005). Relations between agreeableness and perceived support in family relationships: Why nice people are not always supportive. *International Journal of Behavioral Development, 29*, 120-128. doi: 10.1080/01650250444000441

Brendgen, M., Wanner, B., Morin, A. J. S., & Vitaro, F. (2005). Relations with parents and with peers, temperament, and trajectories of depressed mood during early

adolescence. *Journal of Abnormal Child Psychology, 33*, 579–594. doi: 10.1007/s10802-005-6739-2

Brenning, K., Soenens, B., Van Petegem, S., & Vansteenkiste, M. (2015). Perceived maternal autonomy support and early adolescent emotion regulation: A longitudinal study. *Social Development, 3*, 561-578. doi: 10.1111/sode.12107

Bronfenbrenner, U. (1958). Socialization and social class through time and space. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in social psychology* (pp. 400-425). New York: Holt, Rine-Hart & Winston.

Bronfenbrenner, U. (1970). *Two worlds of childhood.* New York: Russell Sage Foundation.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1994). Ecological models of human development. In M. Gauvain and M. Cole (Eds.), *Readings on the development of children* (pp. 37-43). NY: Freeman.

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology* (6th ed., Vol. 1, pp. 793-828). Hoboken, NJ: Wiley.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage.

*Bureau, J. S., & Mageau, G. A. (2014). Parental autonomy support and honestly: The mediating role of identification with the honesty value and perceived costs and benefits of honesty. *Journal of Adolescence, 37*, 225-236. doi: 10.1016/j.adolescence.2013.12.007

Burkholder, G.J. & Harlow, L.L. (2003). An illustration of a longitudinal cross-lagged design for larger structural equation models. *Structural Equation Modeling, 10*, 465-486. doi: 10.1207/S15328007SEM1003_8

Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming.* New York: Routledge.

Byrne, B. M., Shavelson, R. J., & Muthen, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*, 456-466. doi:10.1037/0033-2909.105.3.456

Campbell, D. T. (1986). Relabeling internal and external validity for applied social scientists. In W. M. K. Trochim (Ed.) *Advances in quasi-experimental design analysis: New directions for program evaluation* (pp. 67–77). San Francisco: Jossey-Bass.

Chao, R. K., & Aque, C. (2009). Interpretations of parental control by Asian immigrant and European American youth. *Journal of Family Psychology, 23*, 342–354. doi:10.1037/a0015828

Charles, E. P. (2005). The correction for attenuation due to measurement error: Clarifying concepts and creating confidence sets. *Psychological Methods, 10*, 206-226. doi: 10.1037/1082-989X.10.2.206

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*, 464–504. doi:10.1080/10705510701301834

Chen, F. F. (2008). What happens if we compare chopsticks with forks? The impact of making inappropriate comparisons in cross-cultural research. *Journal of Personality and Social Psychology, 95*, 1005-1018. doi:10.1037/A0013193

Chen, X., Morin, A. J. S., Parker, P. D., & Marsh, H. W. (2015). Developmental investigation of the domain-specific nature of the life satisfaction constructs across the post-school transition. *Developmental Psychology, 51*, 1074-1085. doi: 10.1037/a0039477

Chen, B., Soenens, B., Vansteenkiste, M., Van Petegem, S., & Beyers, W. (2016). Where do the cultural differences in dynamics of controlling parenting lie? Adolescents as active agents in the perception of and coping with parental behavior. *Psychologica Belgica, 56*, 169-192. doi: 10.5334/pb.306

Cheung, M. (2009). Constructing approximate confidence intervals for parameters with structural equation models. *Structural Equation Modeling, 16*, 267–294. doi:10.1080/10705510902751291

Cheung, M. (2014). Modeling dependent effect sizes with three-level meta-analyses: A structural equation modeling approach. *Psychological Methods, 19*, 211–229. doi: 10.1037/a0032968

Cheung, M. (2015). metaSEM: An R package for meta-analysis using structural equation modeling. *Frontiers in Psychology, 5*, 1-7. doi: 10.3389/fpsyg.2014.01521

*Cheung, C. S., Pomerantz, E. M., & Dong, W. (2013). Does adolescents' disclosure to their parents matter for their academic adjustment? *Child Development, 84*, 693-710. doi: 10.1111/j.1467-8624.2012.01853.x

*Cheung, C. S., Pomerantz, E. M., Meifang, W., & Yang, Q. (2016). Controlling and autonomy-supportive parenting in the United States and China: Beyond children's reports. *Child Development.* doi: 10.1111/cdev.12567

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating the goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*, 233–255. doi: 10.1207/S15328007SEM0902_5

Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and U.S. adolescents: Common effects on well-being and academic motivation. *Journal of Cross-Cultural Psychology, 32*, 618 – 635. doi: 10.1177/0022022101032005006

*Churchill Keating, B. L. (2008). *Reconceptualizing parental psychological control independent from autonomy supportive parenting: How both constructs relate to child self-processes and child outcomes* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. AAINR29501)

Ciairano, S., Kliewer, W., Bonino, S., & Bosma, H. A. (2008). Parenting and adolescent well-being in two European countries. *Adolescence, 43*, 99-117. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/18447083

Cicchetti, D., & Rogosch, F. A. (2002). A developmental psychopathology perspective on adolescence. *Journal of Consulting and Clinical Psychology, 70*, 6-20. doi: 10.1037/0022-006X.70.1.6

Clark, K. E., & Ladd, G. W. (2000). Connectedness and autonomy support in parent-child relationships: Links to children's socioemotional orientation and peer relationships. *Developmental Psychology, 36*, 485-498. doi: 10.1037//0012-149.36.4.485

Cohen, J., Cohen, P., West, S. G. , & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum Associates Inc.

Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record, 111*, 180-213. Retrieved from http://www.ijvs.org/files/Publications/School-Climate.pdf

Collins, W. A., & Laursen, B. (1992). Conflict and the transition to adolescence. In C. U. Shantz & W. W. Hartup (Eds.), *Conflict in child and adolescent development* (pp. 216-241). Cambridge: Cambridge University Press.

Commonwealth of Australia (2011). *2011 Strategic Roadmap for Australian Research Infrastructure*, Canberra: Commonwealth of Australia. Retrieved from

https://docs.education.gov.au/system/files/doc/other/national_collaborative_research_

infrastructure_strategic_roadmap_2011.pdf

Commonwealth of Australia (2012). *2012 National Research Investment Plan*, Canberra:

Commonwealth of Australia. Retrieved from

http://www.industry.gov.au/research/Documents/NationalResearchInvestmentPlan.pd

f

Conger, K. J., Conger, R. D., & Scaramella, L. V. (1997). Parents, siblings, psychological

control, and adolescent adjustment. *Journal of Adolescent Research, 12*, 113-138. doi:

10.1177/0743554897121007

Conger, R., & Elder, G., (1994). *Families in troubled times: Adapting to change in rural

America.* Hawthorne, NY: Aldine.

Conger, R. D., Ge, X., Elder, G. H., Lorenz, F. O., & Simons, R. L. (1994). Economic stress,

coercive family process, and developmental problems of adolescents. *Child

Development, 65*, 341-361. doi: 10.2307/1131401

Conger, K., & Little, W. (2010). Sibling relationships during the transition to adulthood.

Child Development Perspectives, 4, 87-94. doi: 10.1111/j.1750-8606.2010.00123.x

Cooper, H. M. (1989). *Integrating research: A guide for literature reviews.* Thousand Oaks,

CA: Sage.

*Costa, S., Soenens, B., Gugliandolo, M. C., Cuzzocrea, F., & Larcan, R. (2015). The

mediating role of experiences of need satisfaction in associations between parental

psychological control and internalizing problems: A study among Italian college

students. *Journal of Child and Family Studies, 24*, 1106-1116. doi: 10.1007/s10826-

014-9919-2

Dagenais-Desmarais, V., Forest, J., Girouard, S., & Crevier-Braud, L. (2014). The

importance of need-supportive relationships for motivation and psychological health

at work. In N. Weinstein (Ed.), *Human motivation and personality relationships: Theory, research, and applications* (pp. 263-298). Dordrecht, NL: Springer.

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487-496. doi: 10.1037/0033-2909.113.3.487

Day, R. D., & Acock, A. (2004). Youth ratings of family processes and father role performance of resident and nonresident fathers. In R. D. Day & M. E. Lamb, ME. (Eds.), *Conceptualizing and measuring father involvement* (pp. 273-292). Mahwah, NJ: Erlbaum.

deCharms, R. (1968). *Personal causation: The internal affective determinants of behavior.* New York: Academic Press.

Deci, E. L. (1975). *Intrinsic motivation.* NY: Plenum Press.

Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology, 74*, 580-590. doi: 10.1037/0021-9010.74.4.580

Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin, 32*, 313-327. doi: 10.1177/0146167205282148

Deci, E. L., & Ryan, R. M. (1985*). Intrinsic motivation and self-determination in human behavior.* New York: Plenum Press.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology, 53*, 1024–1037. doi: 10.1037/0022-3514.53.6.1024

Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation* (pp. 237-288). Lincoln: University of Nebraska Press.

Deci, E. L., & Ryan, R. M. (1995). Human agency: The basis for true self-esteem. In M. H. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 31-50). New York: Plenum.

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. doi: 10.1207/S15327965PLI1104_01

Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin, 27*, 930-942. doi: 10.1177/0146167201278002

Depestele, L., Claes, L., & Lemmens, G. M. D. (2015). Promotion of autonomy-supportive parental style in a multi-family group for eating-disordered adolescents. *Journal of Family Therapy, 37,* 24-40. doi: 10.1111/1467-6427.12047

Diener, E. & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology, 47*, 1105-1117. doi: 10.1037/0022-3514.47

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75. doi: 10.1207/s15327752jpa4901_13

Dietrich, J., Kracke, B., & Nurmi, J. E. (2011). Parents' role in adolescents' decision on a college major: A weekly diary study. *Journal of Vocational Behavior, 79*, 134-144. doi: 10.1016/j.jvb.2010.12.003

Dietrich, J., Parker, P. D., & Salmela-Aro, K. (2012). Phase-adequate engagement at the post-school transition. *Developmental Psychology, 48*, 1575- 1593. doi: 10.1037/a0030188

Dietrich, J., & Salmela-Aro, K. (2013). Parental involvement and adolescents' career goal pursuit during post-school transition. *Journal of Adolescence, 36*, 121-128. doi: 10.1016/j.adolescence.2012.10.009

Dishion, T. J., Poulin, F., and Medici Skaggs, N. (2000). The ecology of premature autonomy in adolescence: Biological and social influences. In K. A. Kerns, J. M. Contreras, and A. M. Neal-Barnett (Eds.), Family and peers: Linking two social worlds (pp. 27–45). Westport, CT: Praeger.

Dishion, T., & Stormshak, E. (2007). The ecology of development and change. In T. J. Dishion & E. A. Stormshak (Eds.), *Intervening in children's lives: An ecological, family-centered approach to mental health care* (pp. 39-64). Washington, DC: American Psychological Association.

Duncan, T., Duncan, S., & Strycker, L. (2006). *An introduction to latent variable growth curve modeling.* Mahwah, NJ: Erlbaum.

Duriez, B., Vansteenkiste, M., Soenens, B., & De Witte, H. (2007). The social costs of extrinsic relative to intrinsic goal pursuits: Their relation with social dominance and racial and ethnic prejudice. *Journal of Personality, 75*, 757-782. doi: 10.1111/j.1467-6494.2007.00456.x

Eccles, J.S. (2004). Schools, academic motivation, and stage-environment fit. In R. M. Lerner & L. D. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 125–153). Hoboken, NJ: Wiley.

Eccles, J. S. (2007). Families, schools, and developing achievement-related motivations and engagement. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialisation: Theory and Research* (pp. 665-691). New York, NY: The Guilford Press.

Eccles, J. S. (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. doi:

10.1080/00461520902832368

Eccles, J. S., Early, D., Frasier, K., Belansky, E., & McCarthy, K. (1997). The relation of

connection, regulation, and support for autonomy to adolescents' functioning. *Journal

of Adolescent Research, 12*, 263-286. doi: 10.1177/0743554897122007

Eccles, J. S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate

classrooms for young adolescents. In C. Ames & R. Ames (Eds.), *Research on

motivation in education: Vol. 3. Goals and cognitions* (pp. 13-44). New York, NY:

Academic Press.

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., &

MacIver, D. (1993). Development during adolescence: The impact of

stage/environment fit on young adolescents' experiences in schools and families.

American Psychologist, 48, 90–101. doi: 10.1037/0003-066X.48.2.90

Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected

by a simple, graphical test. *British Medical Journal, 315*, 629–634. doi:

10.1136/bmj.315.7109.629

Elder, G. H. (1998). *Children of the Great Depression*, 25th anniversary edition. Oxford,

England: Westview Press.

Elder, G. H., Pavalko, E. K., & Clipp, E. C. (1993). *Working with archival data: Studying

lives* (Sage University Paper Series on quantitative applications in the social sciences,

07-088). Newbury Park, CA: Sage.

Enders, C. K. (2010). *Applied missing data analysis.* New York, NY: Guildford Press.

Erikson, E. H. (1959). *Identity and the life cycle.* NY: International University Press.

Erikson, E. H. (1982). *The Life Cycle Completed*. NY: Norton.

Farkas, M. S., & Grolnick, W. S. (2010). Examining the components and concomitants of parental structure in the academic domain. *Motivation and Emotion, 34*, 266–279. doi: 10.1007/s11031-010-9176-7

Ferrer, E., & McArdle, J. J. (2010). Longitudinal modeling of developmental changes in psychological research. *Current Directions in Psychological Science, 19*, 149–154. doi: 10.1177/0963721410370300

Field, A. P. (2003). The problems in using fixed-effects models of meta-analysis on real-world data. *Understanding Statistics, 2*, 105–124. doi:10.1207/S15328031US0202_02

Finnish National Board of Education (2012). *Finnish education in a nutshell*. Retrieved from www.oph.fi/download/146428_Finnish_Education_in_a_Nutshell.pdf

*Fousiani, K., Dimitropoulou, P., Michaelides, M. P., & Van Petegem, S. (2016). Perceived parenting and adolescent cyber-bullying: Examining the intervening role of autonomy and relatedness need satisfaction, empathic concern and recognition of humanness. *Journal of Child and Family Studies, 25*, 2120-2129. doi: 10.1007/s10826-016-0401-1

Fraley, R. C., Roisman, G. I., & Haltigan, J. D. (2013). The legacy of early experiences in development: Formalizing alternative models of how early experiences are carried forward over time. *Developmental Psychology, 49*, 109-126. doi: 10.1037/a0027852

Freud, S. (1991). *On sexuality: Three essays on the theory of sexuality and other works*. London, UK: Penguin Books Limited.

Frey, K., Hirschstein, M., Edstrom, L., & Snell, J. (2009). Observed reductions in school bullying, nonbullying aggression, and destructive bystander behavior: A longitudinal evaluation. *Journal of Educational Psychology, 101*, 466–481. doi:10.1037/a0013839

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*, 103-115. doi: 10.2307/1130905

Gagné, M. (2003). The role of autonomy support and autonomy orientation in prosocial

behaviour engagement. *Motivation and Emotion, 27*, 199-223. doi:

0.1023/A:1025007614869

Galambos, N. L., Barker, E.T., & Almeida, D. M. (2003). Parents do matter: Trajectories of

change in externalizing and internalizing problems in early adolescence. *Child

Development, 74*, 578–594. doi: 10.1111/1467-8624.7402017

Gamble, W. C., Ramakumar, S., & Diaz, A. (2007). Maternal and paternal similarities and

differences in parenting: An examination of Mexican-American parents of young

children. *Early Childhood Research Quarterly, 22*, 72-88. doi:

10.1016/j.ecresq.2006.11.004

Gati, I., & Asher, I. (2001). The PIC model for career decision making: Prescreening, in-

depth exploration, and choice. In F. T. Leong & A. Barak (Eds.), *Contemporary

models in vocational psychology* (pp. 7-54). Mahwah, NJ: Lawrence Erlbaum

*Geurtzen, N., Scholte, R. H. J., Engels, R. C. M., Tak, Y. R., & van Zundert, R. M. P.

(2015). Association between mindful parenting and adolescents' internalizing

problems: Non-judgmental acceptance of parenting as core element. *Journal of Child

and Family Studies, 24*, 1117-1128. doi: 10.1007/s10826-014-9920-9

Gewirtz, J. L. (1969). Mechanisms of social learning: Some roles of stimulation and behavior

in early human development. In D. A. Goslin (Ed.), *Handbook of socialization theory

and research* (pp. 57- 212). Chicago: Rand McNally

Golden, P. G. (1969). A review of children's reports of parent behaviors. *Psychological

Bulletin, 71*, 222-235. doi: 10.1037/h0027017

*Gong, X., Paulson, S. E., & Cen, W. (2016). Exploring family origins of perfectionism: The

impact of interparental conflict and parenting behaviors. *Personality and Individual

Differences, 100*, 43-48. doi: 10.1016/j.paid.2016.02.010

*Gonida, E. N., & Cortina, K. S. (2014). Parental involvement in homework: Relations with parent and student achievement-related motivational beliefs and achievement. *British Journal of Educational Psychology, 84*, 376-396. doi: 10.1111/bjep.12039

Gonzales, N. A., Cauce, A. M., & Mason, C. A. (1996) Inter-observer agreement in the assessment of parental behavior and parent-adolescent conflict: African American mothers, daughters, and independent observers. *Child Development, 67*, 1483-1498. doi: 10.1111/j.1467-8624.1996.tb01809.x

Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and Family, 61*, 574–587. doi: 10.2307/353561

Grolnick, W. S. (2003). *The psychology of parental control: How well-meant parenting backfires.* Hillside, NJ: Erlbaum.

Grolnick, W. S., & Apostoleris, N. H. (2002). What makes parents controlling? In E. L. Deci & R. M. Ryan (Eds.), *Handbook of Self-Determination Theory* (pp. 161- 182). NY: University of Rochester Press.

Grolnick, W. S., Deci, E. L., & Ryan, R. M. (1997). Internalization within the family: The self-determination theory perspective. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 78–99). London: Wiley.

Grolnick,W. S., & Farkas, M. (2002).Parenting and the development of children's self-regulation. In M. H. Bornstein (ed.), *Handbook of Parenting: Practical Issues in Parenting* (2nd ed., Vol. 5, pp. 89-110). Mahway, NJ: Erlbaum.

Grolnick, W. S., Gurland, S. T., DeCourcey, W., & Jacob, K. (2002). Antecedents and consequences of mothers' autonomy support: An experimental investigation. *Developmental Psychology, 38*, 143–155. doi: 10.1037//0012-1649.38.1.143

Grolnick, W. S., Kurowski, C. O., Dunlap, K. G., & Hevey, C. (2000). Parental resources and the transition to junior high. *Journal of Research on Adolescence, 10*, 465-488. doi: 10.1207/SJRA1004_05

Grolnick, W. S., & Pomerantz, E. M. (2009). Issues and challenges in studying parental control: Toward a new conceptualization. *Child Development Perspectives, 3*, 165-170. doi: 10.1111/j.1750-8606.2009.00099.x

Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*, 143-154. doi:10.1037/0022-0663.81.2.143

Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of Educational Psychology, 89*, 508-517. doi: 10.1037/0022-0663.83.4.508

*Grolnick, W. S., Weiss, L., McKenzie, L., & Wrightman, J. (1996). Contextual, cognitive, and adolescent factors associated with parenting in adolescence. *Journal of Youth Adolescence, 25*, 33–54. doi: 10.1007/BF01537379

Guay, F., Senécal, C., Gauthier, L., & Fernet, C. (2003). Predicting career indecision: A self-determination theory perspective. *Journal of Counseling Psychology, 50*, 165-177. doi: 10.1037/0022-0167.50.2.165

Gurland, S. T., & Grolnick, W. S. (2005). Perceived threat, controlling parenting, and children's achievement orientations. *Motivation and Emotion, 29*, 103–121. doi: 10.1007/s11031-005-7956-2

Gutman, L. M., & Eccles, J. S. (2007). Stage-environment fit during adolescence: Trajectories of family relations and adolescent outcomes. *Developmental Psychology, 43*, 522-537. doi: 10.1037/0012-1649.43.2.522

Hale,W.W., VanderValk, I., Akse, J., & Meeus,W. (2008). The interplay of early

   adolescents' depressive symptoms, aggression and perceived parental rejection: A

   four-year community study. *Journal of Youth and Adolescence, 37*, 928–940. doi:

   10.1007/s10964-008-9280-0

Haller, A. O., Woelfel, J., & Fink, E. L. (1968). *The Wisconsin Significant Other Battery:*

   Construction, validation, and reliability tests of questionnaire Instruments to identify

   'significant others' and measure their educational and occupational expectations for

   high school youth. Final report. Wisconsin: Wisconsin University, Madison.

*Harvey, B., Matte-Gagné, C., Stack, D. M., Serbin, L. A., Ledingham, J. E., &

   Schwartzman, A. E. (2016). Risk and protective factors for autonomy-supportive and

   controlling parenting in high-risk factors. *Journal of Applied Developmental*

   Psychology, 43, 18-28. doi: 10.1016/j.appdev.2015.12.004

*Hasan, N., & Power, T. G. (2002). Optimism and pessimism in children: A study of

   parenting correlates. *International Journal of Behavioral Development, 26*, 185-191.

   doi: 10.1080/01650250114300003

*Hauser Kunz, J. K. (2008). *Differentiating parental psychological control from autonomy*

   granting and examining their relations with family dynamics (Doctoral dissertation).

   Retrieved from http://epublications.marquette.edu/dissertations/AAI3326758/

Hauser Kunz, J., & Grych, J. H. (2013). Parental psychological control and autonomy

   granting: Distinctions and associations with child and family functioning. *Parenting:*

   Science and Practice, 13, 77-94. doi: 10.1080/15295192.2012.709147

Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span

   development. *Psychological Review, 117*, 32–60. doi: 10.1037/a0017668

Heikkilä, M., & Uusitalo, H. (1997). The costs of cuts: Studies on cutbacks in social security and their effects in the Finland of the 1990's (1st ed.). Helsinki: STAKES (National Research and Development Centre for Welfare and Health in Finland)

Helwig, C. C., To, S., Wang, Q., Liu, C. Q., & Yang, S. G. (2014). Judgments and reasoning about parental discipline involving induction and psychological control in China and Canada. *Child Development, 85*, 1150–1167. doi:10.1111/cdev.12183

Henry, H. M., Stiles, W. B., Biran, M. W., & Hinkle, S. (2008). Perceived parental acculturation behaviors and control as predictors of subjective well-being in Arab American college students. *The Family Journal, 16*, 28-34. doi: 10.1177/1066480707309126

Herman, M. R., Dornbusch, S. M., Herron, M. C., & Herting, J. R. (1997). The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. *Journal of Adolescent Research, 12*, 34–67. doi: 10.1177/0743554897121004

Higgins, J. P., & Green S. (2011). *Cochrane handbook for systematic reviews of interventions*, Version 5.1.0. Retrieved from http://handbook.cochrane.org/

Higgins, J., Thompson, S., Deeks, J., & Altman, D. (2003). Measuring inconsistency in meta-analyses. *British Medical Journal, 327*, 557–560. doi:10.1136/bmj.327.7414.557

Hill, J. P., & Holmbeck, G. N. (1986). Attachment and autonomy during adolescence. In G.T. Whitehouse (Ed.), *Annals of child development* (Vol. 3, pp. 145-189). Greenwich, CT: JAI

Hmel, B. A., & Pincus, A. L. (2002). The meaning of autonomy: On and beyond the interpersonal circumplex. *Journal of Personality, 70*, 277-310. doi: 10.1111/1467-6494.05006

Hoff, E., Laursen, B., & Tardif, T. (2002). Socioeconomic Status and Parenting. In M. H. Bornstein (Ed.), *Handbook of Parenting* (pp. 231-252). Mahwah, NJ: Erlbaum.

Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 158-176). Thousand Oaks: Sage.

Hunt, J. (1965). Intrinsic motivation and its role in psychological development. In D. Levine (ed.), *Nebraska Symposium on Motivation* (Vol. 13, pp. 189–282). Lincoln: University of Nebraska Press.

Hunt, D. E. (1975). Person-environment interaction: A challenge found wanting before it was tried. *Review of Educational Research, 45*, 209-230. doi: 10.3102/00346543045002209

Hunter, J. E., & Schmidt, F. L. (2004) *Methods of meta-analysis: Correcting error and bias in 483 research findings.* London, UK: Sage Publications.

Huppert, F. (2007). Positive mental health in individuals and populations. In F. Huppert, N. Baylis, & B. Keverne (Eds.), *The Science of well-being: Integrating neurobiology, psychology and social science* (pp. 307-340). Oxford: Oxford University Press.

Ilardi, B. C., Leone, D., Kasser, T., & Ryan, R. M. (1993). Employee and supervisor ratings of motivation: Main effects and discrepancies associated with job satisfaction and adjustment in a factory setting. *Journal of Applied Social Psychology, 23*, 1789–1805. doi: 10.1111/j.1559-1816.1993.tb01066.x

*Jahromi, L. B., Guimond, A. B., Umaña-Taylor, A. J., Updegraff, K. A., & Toomey, R. B. (2014). Family context, Mexican-origin adolescent mothers' parenting knowledge, and children's subsequent developmental outcomes. *Child Development, 85*, 593-609. doi: 10.1111/cdev.12160

Jamshidian, M., Jalal, S., & Jansen, C. (2014). MissMech: An R package for testing

homoscedasticity, multivariate normality, and missing completely at random

(MCAR). *Journal of Statistical Software, 56*, 1-31. Retrieved from

http://www.jstatsoft.org/v56/i06/

Janssens, A., Goossens, L., Van Den Noortgate, W., Colpin, H., Verschueren, K., & Van

Leeuwen, K. (2014). Parents' and adolescents' perspectives on parenting: Evaluating

conceptual structure, measurement invariance, and criterion validity. *Assessment, 22*,

473-489. doi: 10.1177/1073191114550477

*Jeon, S. (2008). *The effects of parents' and teachers' motivating styles on adolescents'

school outcomes and psychological well-being: A test of self-determination theory in

a Korean context* (Doctoral dissertation). Available from ProQuest Dissertations and

Theses database. (UMI No. 3301715)

Joussemet, M., Koestner, R., Lekes, N., & Landry, R. (2005). A longitudinal study of the

relationship of maternal autonomy support to children's adjustment and achievement

in school. *Journal of Personality, 73*, 1215–1235. doi: 10.1111/j.1467-

6494.2005.00347.x

Joussemet, M., Landry, R., & Koestner, R. (2008). A self-determination theory perspective

on parenting. *Canadian Psychology, 49*, 194-200. doi: 10.1037/a0012754

Joussemet, M., Mageau, G., & Koestner, R. (2014). Promoting optimal parenting and

children's mental health: A preliminary evaluation of the How-to Parenting Program.

Journal of Child and Family Studies, 23, 949-964. doi: 10.1007/s10826-013-9751-0

*Karbach, J., Gottschling, J., Spengler, M., Hegewald, K., & Spanith, F. M. (2013). Parental

involvement and general cognitive ability as predictors of domain-specific academic

achievement in early adolescence. *Learning and Instruction, 23*, 43-51. doi:

10.1016/j.learninstruc.2012.09.004

Karavasilis, L., Doyle, A. B., & Markiewicz, D. (2003). Associations between parenting style and attachment to mothers in middle childhood and adolescence. *International Journal of Behaviour Development, 27*, 153-164. doi: 10.1080/0165025024400015

Kasser, V. G., & Ryan, R. M. (1999). The relation of psychological needs for autonomy and relatedness to vitality, well-being, and mortality in a nursing home. *Journal of Applied Social Psychology, 29*, 935-954. doi: 10.1111/j.1559-1816.1999.tb00133.x

Keijsers, L., Frijns, T., Branje, S. J. T., & Meeus, W. (2009). Developmental links of adolescent disclosure, parental solicitation, and control with delinquency: Moderation by parental support. *Developmental Psychology, 45*, 1314–1327. doi: 10.1037/a0016693

Keijsers, L., Voelkle, M. C., Maciejewski, D., Branje, S., Koot, H., Hiemstra, M., & Meeus, W. (2016). What drives developmental change in adolescent disclosure and maternal knowledge? Heterogeneity in within-family processes. *Developmental Psychology, 52*, 2057-2070. doi: 10.1037/dev0000220

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Research, 43*, 207-222. doi: 10.2307/3090197

Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*, 539-548. doi: 10.1037/0022-006X.73.3.539

Kiff, C. J., Lengua, L. J., & Zalewski, M. (2011). Nature and nurturing: Parenting in the context of child temperament. *Clinical Child and Family Psychology Review, 14*, 251–301. doi:10.1007/s10567-011-0093-4

*Kim, J. (2009). *An integrative cultural view of achievement motivation in learning math: Parental and classroom predictors of goal orientation of children with different*

cultural and ethnic backgrounds (Doctoral dissertation). Available from ProQuest

Disserations and Theses database. (UMI No. 3342160)

*Kim, J., Schallert, D. L., & Myoungsook, K. (2010). An integrative cultural view of

achievement motivation: Parental and classroom predictors of children's goal

orientations when learning mathematics in Korea. *Journal of Educational Psychology,

102*, 418-437. doi: 10.1037/a0018676

Kochanska, G. (1993). Toward a synthesis of parental socialization and child temperament in

early development of conscience. *Child Development, 64*, 325–347.

Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's

behavior: The differential effects of controlling versus informational styles on

intrinsic motivation and creativity. *Journal of Personality, 52*, 1–248. doi:

10.1111/j.1467-6494.1984.tb00879.x

Korelitz, K. E., & Garber, J. (2016). Congruence of parents' and children's perceptions of

parenting: A meta-analysis. *Journal of Youth and Adolescence, 45*, 1975-1995. doi:

10.1007/s10964-016-0524-0

La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person

variation in security of attachment: A self-determination theory perspective on

attachment, need fulfilment, and well-being. *Journal of Personality and Social

Psychology, 79*, 367-384. doi: 10.1037//0022-3514.79.3367

Landry, R., Whipple, Mageau, G., Joussemet, M., Koestner, R., DiDio, L., Gingras, I.,

...Bernier, A. (2008). Trust in organismic development, autonomy support, and

adaptation among mothers and their children. *Motivation and Emotion, 32*, 173-188.

doi: 10.1007/s11031-008-9092-2

Lansford, J. E., Laird, R. D., Pettit, G. S., Bates, J. E., & Dodge, K. A. (2011). Mothers' and

Fathers' autonomy relevant parenting: Longitudinal links with adolescents'

externalizing and internalizing behaviour. *Journal of Youth and Adolescence, 18*, 1492-1501. doi: 10.1007/s10964-013-0079-2

Lareau, A. (2011). *Unequal childhoods: Class, race, and family life.* University of California Press.

Larose, S., & Boivin, M. (1997). Attachment to parents, social support expectations, and socioemotional adjustment during the high school-college transition. *Journal of Research on Adolescence, 8*, 1–27. doi: 10.1207/s15327795jra0801_1

Laursen, B., & Bukowski, W. M. (1997). A developmental guide to the organisation of close relationships. *International Journal of Behavioral Development, 21*, 747-770. doi: 10.1080/016502597384659

Laursen, B., & Collins, W. (2009). Parent—child relationships during adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, volume 2: Contextual influences on adolescent development* (pp. 3-42). Hokoben, NJ: John Wiley & Sons, Inc.

Lerner, R. M., Rothbaum, F., Boulos, S., & Castellino, D. R. (2002). Developmental systems perspective on parenting. In M. H. Bornstein (Ed.), Handbook of parenting (2nd ed., Vol. 2, pp. 315-344). Mahwah, NJ: Lawrence Erlbaum.

Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created "social climates." *The Journal of Social Psychology, 10*, 269–299. doi:10.1080/00224545.1939.9713366

Lewin, K. (1935). *A dynamic theory of personality*. NY: McGraw-Hill.

Lewis, C. C. (1981). The effects of parental firm control: A reinterpretation of the findings. *Psychological Bulletin, 90*, 547-563. doi: 10.1037/0033-2909.90.3.547

Liew, J., Kwok, O., Chang, Y., Chang, B. W., & Yeh, Y. (2014). Parental autonomy support predicts academic achievement through emotion-related self-regulation and adaptive

skills in Chinese American adolescents. *Asian American Journal of Psychology, 5*, 214-222. doi: 10.1037/a0034787

Lindsey, E. W., & Caldera, Y. M. (2005). Interparental agreement on the use of control in childrearing and infants' compliance to mother's control strategies. Infant Behavior and Development, 28, 165–178. doi: 10.1016/j.infbeh.2005.02.004

Lindsey, E. W., & Mize, J. (2001). Interparental agreement, parent–child responsiveness, and children's peer competence. *Family Relations, 50*, 348–354. doi: 10.1111/j.1741-3729.2001.00348.x

Litalien, D., Lüdtke, O., Parker, P. D., & Trautwein, U. (2013). Different pathways, same effects: Autonomous goal regulation is associated with subjective well-being during post-school transition. *Motivation and Emotion,* 37, 444-456. doi: 10.1007/s11031-012-9328-z

Locke, J. (1952). *A letter concerning toleration*. Chicago: Encyclopaedia Britannica, Inc.

Locke, L. M., & Prinz, R. J. (2002). Measurement of parental discipline and nurturance. *Clinical Psychology Review, 22*, 895-929. doi:10.1016/s0272-7358(02)00133-2

Loeber, R., Drinkwater, M., Yin, Y., Anderson, S., Schmidt, L. C., & Crawford, A. (2000). Stability of family interaction from ages 6 to 18. *Journal of Abnormal Child Psychology, 28*, 353-369. doi: 10.1023/A:1005169026208

Lopez, F. G., & Andrews, S. (1987). Career indecision: A family systems perspective. *Journal of Counseling and Development, 65*, 304–307. doi: 10.1002/j.1556-6676.1987.tb01291.x

Lord S., Eccles, J. S., & McCarthy, K. (1994). Risk and protective factors in the transition to junior high school. *Journal of Early Adolescence, 14*, 162-199. doi: 10.1037/0012-1649.38.5.719

Luebbe, A. M., Bump, K. A., Fussner, L. M., & Rulon, K. J. (2014). Perceived maternal and

    paternal psychological control: Relations to adolescent anxiety through deficits in

    emotion regulation. *Child Psychiatry and Human Development, 45*, 565-576. doi:

    10.1007/s10578-013-0425-3

Luo, S., & Klohnen, E. C. (2005). Assortative mating and marital quality in newlyweds: A

    couple-centered approach. *Journal of Personality and Social Psychology, 88*, 304-

    326. doi: 10.1037/0022-3514.88.2.304

*Luyckx, K., Soenens, B., Goossens, L., & Vansteenkiste, M. (2007). Parenting, identity

    formation, and college adjustment: A mediation model with longitudinal data.

    Identity, 7, 309-330. doi: 10.1080/15283480701600785

Luyckx, K., Tildesley, E. A., Soenens, B., Andrews, J. A., Hampson, S. E., Peterson, M., &

    Duriez, B. (2011). Parenting and trajectories of children's maladaptive behaviors: A

    12-year prospective community study. *Journal of Clinical Child and Adolescent*

    Psychology, 40, 468-478. doi: 10.1080/15374416.2011.563470.

Maccoby, E. (1980). *Social development—psychological growth and the parent-child*

    relationship. NY: Harcourt Brace Jovanovich.

Maccoby, E. (1992). The role of parents in the socialization of children: An historical

    overview. *Developmental Psychology, 28*, 1006-1017. doi: 10.1037/0012-

    1649.28.6.1006

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-

    child interaction. In P. M. Mussen and E. M. Hetherington (Eds.), *Handbook of child*

    psychology (Vol. 4, pp. 1-102). NY: Wiley.

*Mageau, G. A., Bureau, J. S., Ranger, F., Allen, M. P., & Soenens, B. (2016). The role of

    parental achievement goals in predicting autonomy-supportive and controlling

parenting. *Journal of Child and Family Studies, 25*, 1702-1711. doi: 10.1007/s10826-015-0341-1

*Mageau, G. A., Ranger, F., Joussemet, M., Koestner, R., Moreau, E., & Forest, J. (2015). Validation of the perceived parental autonomy support scale (P-PASS). *Canadian Journal of Behavioural Science, 47*, 251-262. doi: 10.1037/a0039325

Malmberg, L. E. (1996). How do Finnish students prepare for their future in three school types? The relation between content of plans, information gathering and self-evaluations. *British Journal of Educational Psychology, 66*, 457-469. doi: j.2044-8279.1996.tb01212.x

Manzeske, D. P., & Stright, A. D. (2009). Parenting styles and emotion regulation: The role of behavioral and psychological control during young adulthood. *Journal of Adult Development, 16*, 223–229. doi: 10.1007/s10804-009-9068-9

Manzi, C., Regalia, C., Pelucchi, S., & Fincham, F. D. (2012). Documenting different domains of promotion of autonomy in families. *Journal of Adolescence, 35*, 289-298. doi: 10.1016/ j.adolescence.2011.10.011

*Marbell, K. N., & Grolnick, W. S. (2013). Correlates of parental control and autonomy support in an independent culture: A look at Ghana. *Motivation and Emotion, 37*, 79-92. doi: 10.1007/s11031-012-9289-2

Marsh, H. W. (2007). Application of confirmatory factor analysis and structural equation modeling in sport/exercise psychology. In D. G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (pp. 774–798). New York, NY: Wiley.

Marsh, H. W., & Ayotte, V. (2003). Do multiple dimensions of self- concept become more differentiated with age? The differential distinctiveness hypothesis. Journal of *Educational Psychology, 95*, 687–706. doi: 10.1037/0022-0663.95.4.687

Marsh, H. W., Bornmann, L., Mutz, R., Daniel, H.-D., & O'Mara, A. (2009). Gender effects in the peer reviews of grant proposals: A comprehensive meta-analysis comparing traditional and multilevel approaches. *Review of Educational Research, 79*, 1290–1326. doi:10.3102/0034654309334143

Maurizi, L. K., Gershoff, E. T., & Aber, J. L. (2012). Item-level discordance in parent and adolescent reports of parenting behavior and its implications for adolescents' mental health and relationships with their parents. *Journal of Youth and Adolescence, 41*, 1035-1052. doi:10.1007/s10964-0119741-8

McDonald, R. P., & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness of fit. *Psychological Bulletin, 107*, 247–255. doi:10.1037/0033-2909.107.2.247

McNally, S., Eisenberg, N., & Harris, J. D. (1991). Consistency and change in maternal child-rearing practices and values: A longitudinal study. *Child Development, 62*, 190-198. doi: 10.1111/j.1467-8624.1991.tb01524.x

Meredith, W. (1993). Measurement invariance, factor analysis and factorial invariance. *Psychometrika, 58*, 525-543. doi:10.1007/Bf02294825

*Meuwissen, A. S., & Carlson, S. M. (2015). Fathers matter: The role of father parenting in preschoolers' executive function development. *Journal of Experimental Child Psychology, 140*, 1-15. doi: 10.1016/j.jecp.2015.06.010

Midgley, C, & Feldlaufer, H. (1987). Students' and teachers' decision-making fit before and after the transition to junior high school. *Journal of Early Adolescence, 7*, 225-241. doi: 10.1177/0272431687072009

Midgley, C., Middleton, M. J., Gheen, M. H., & Kumar, R. (2002). Stage-environment fit revisited: A goal theory approach to examining school transitions. In C. Midgley

(Ed.), *Goal, goal structures, and patterns in adaptive learning* (pp. 109-142). New York, NY: Routledge.

*Mih, V. (2013). Role of parental supports for learning, autonomous/control motivation, and forms of self-regulation on academic attainment in high school students: A path analysis. *Cognition, Brain, Behavior, 17*, 35-59.

*Miklikowska, M., & Hurme, H. (2011). Democracy begins at home: Democratic parenting and adolescents' support for democratic values. *European Journal of Developmental Psychology, 8*, 541-557. doi: 10.1080/17405629.2011.576856

Minuchin, P. (1985). Families and individual development: Provocations from the field of family therapy. *Child Development, 56*, 289-302. doi: 10.2307/1129720

Moher, D., Hopewell, S., Schulz, K. F., Montori, V., Gøtzsche, P. C., Devereaux, P. J., …Altman, D. G. (2010). CONSORT 2010 explanation and elaboration: Updated guidelines for reporting parallel group randomised trials. *British Medical Journal, 340*, 1-28. doi: 10.1136/bmj.c869

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., The PRISMA Group (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine, 6*, 1-6. doi: 10.1371/journal.pmed1000097

Morgan, S. L., & Winship, C. (2007). *Counterfactuals and causal inference: Methods and principles for social research*. Cambridge: Cambridge University Press.

Morgan-Lopez, A. A., & Patock-Peckham, J. A. (2009). Mediational links among parenting styles, perceptions of parental confidence, self-esteem, and depression on alcohol-related problems in emerging adulthood. *Journal of Studies on Alcohol and Drugs, 70*, 215-226. doi: 10.1017/CBO9781107415324.004

Mortimer, J. T., Zimmer-Gembeck, M. J., Holmes, M., & Shanahan, M. J. (2002). The

process of occupational decision making: Patterns during the transition to adulthood.

Journal of Vocational Behavior, 61, 439-465. doi:10.1006/jvbe.2002.1885

Murray, H. A. (1938). *Explorations in personality.* NY: Oxford University Press.

Muthén, L.K. and Muthén, B.O. (1998-2015). *Mplus user's guide: Seventh edition*. Los

Angeles, CA: Muthén & Muthén.

Nagengast, B., Marsh, H. W., Scalas, L. F., Xu, M. K., Hau, K. T., & Trautwein, U. (2011).

Who took the "9" out of expectancy-value theory? A psychological mystery, a

substantive-methodological synergy, and across-national generalization.

Psychological Science, 22, 1058–1066. doi:10.1177/0956797611415540

Nelson, L. J., & Barry, C. M. (2005). Distinguishing features of emerging adulthood: the role

of self-classification as an adult. *Journal of Adolescent Research, 20*, 242–262. doi:

10.1177/0743558404273074

Nelson, D. A., Hart, C. H., Yang, C., Olsen, J. A., & Jin, S. (2006). Aversive parenting in

China: Associations with child physical and relational aggression. *Child

Development, 77*, 554-572. doi: 10.1111/j.1467-8624.2006.00890.x

Nelson, L. J., Padilla-Walker, L. M., Christensen, K. J., Evans, C. A., & Carroll, J. S. (2011).

Parenting in emerging adulthood: An examination of parenting clusters and correlates.

Journal of Youth and Adolescence, 40, 730-743. doi: 10.1007/s10964-010-9584-8

Nelson, D. A., Yang, C., Coyne, S. M., Olsen, J. A., & Hart, C. H. (2013). Parental

psychological control dimensions: Connections with Russian preschoolers' physical

and relational aggression. *Journal of Applied Developmental Psychology, 34*, 1-8. doi:

10.1016/j.appdev.2012.07.003

Noller, P. (1994). Relationships with parents in adolescence: Process and outcome. In R. Montemayor, G. Adams, & T. Gullotta (Eds.), *Personal relationships during adolescence* (pp. 37-78). Thousand Oaks, CA: Sage.

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

*Nyhus, E. K., & Webley, P. (2013). The relationship between parenting and the economic orientation and behaviour of Norwegian adolescents. *The Journal of Genetic Psychology, 174*, 620-641. doi: 10.1080/00221325.2012.754398

Oosterwaal, A., & Torenvlied, R. (2010). Politics divided from society? Three explanations for trends in societal and political polarisation in the Netherlands. *West European Politics, 33*, 258-279. doi: 10.1080/01402380903538880

Organization for Economic Co-operation and Development (2000). *Early childhood education and care policy in Finland*. Retrieved from www.oecd.org/finland/2476019.pdf

Organization for Economic Co-operation and Development (2004). *Learning for tomorrow's world. First results from PISA 2003*. Retrieved from http://www.pisa.oecd.org/document/55/0,3343,en_32252351_32236173_ 33917303_1_1_1_1,00.html

Organization for Economic Co-operation and Development (2010). *PISA 2009 Results: Executive Summary*. Retrieved from http://www.oecd.org/document/61/0,3343,en_2649_35845621_46567613_1_1_1_1,0 0.html#PISA_2009_results

Organization for Economic Co-operation and Development (2013). *Education policy outlook: Finland*. Retrieved from

http://www.oecd.org/edu/EDUCATION%20POLICY%20OUTLOOK%20FINLAND
_EN.pdf

Orlansky, H. (1949). Infant care and personality. *Psychological Bulletin, 46*, 1-48.

Oswald, D. L., & Clark, E. M. (2003). Best friends forever?: High school best friendships and
the transition to college. *Personal Relationships, 10*, 187-196. doi: 10.1111/1475-
6811.00045

Otto, L. B. (2000). Youth perspectives on parental career influence. *Journal of Career
Development, 27*, 111–118. doi: 10.1177/089484530002700205

Oudekerk, B. A., Allen, J. P., Hafen, C. A., Hessel, E. T., Szwedo, D. E., & Spilker, A.
(2014). Maternal and paternal psychological control as moderators of the link between
peer attitudes and adolescents' risky sexual behavior. *Journal of Early Adolescence,
34*, 413-435. doi: 10.1177/0272431613494007

Owen, K., Parker, P.D., Van Zanden, B., MacMillian, F., Astell-Burt, T., Lonsdale, C.
(2016). Physical Activity and School Engagement in Youth: A Systematic Review
and Meta-Analysis. *Educational Psychologist, 51*, 129-145. doi:
10.1080/00461520.2016.1151793

Padilla-Walker, L. M., & Nelson, L. J. (2012). Black hawk down?: Establishing helicopter
parenting as a distinct construct from other forms of parental control during emerging
adulthood. Journal of Adolescence, 35, 1177-1190. doi:
10.1016/j.adolescence.2012.03.007

*Pan, Y., Gauvin, M., & Schwartz, S. J. (2013). Do parents' collectivistic tendency and
attitudes toward filial piety facilitate autonomous motivation among young Chinese
adolescents? *Motivation and Emotion, 37*, 701-711. doi: 10.1007/s11031-012-9337-y

Park, N. (2004). The role of subjective well-being in positive youth development. *Annals of the American Academy of Political and Social Science, 591*, 25-39. doi: 10.1177/0002716203260078

Parke, R. D. (2002). Fathers and families. In M. H. Borstein (Ed.), *Handbook of parenting, Vol. 3: Being and becoming a parent* (pp. 27–73). Mahwah, NJ: Erlbaum.

Parker, P. D., Lüdtke, O., Trautwein, U., & Roberts, B. W. (2012). Personality and relationship quality during the transition from high school to early adulthood. *Journal of Personality, 80*, 1061-1089. doi:10.1111/j.1467-6494.2012.00766.x

Parker, P. D., Marsh, H. W., Morin, A. J. S., Seaton, M., & Van Zanden, B. (2015). If one goes up the other must come down: Examining ipsative relationships between math and English self-concept trajectories across high school. *British Journal of Educational Psychology, 85*, 172-191. doi: 10.1111/bjep.12050

Parker, P. D., & Salmela-Aro, K. (2011). Developmental processes in school burnout: A comparison of major developmental models. *Learning and Individual Differences, 21*, 244-248. doi:10.1016/j.lindif.2011.01.005

Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academic success: Examining the transition from high school to university. *Personality and Individual Differences, 36*, 163-172. doi:10.1016/S0191-8869

Parker, P. D., Schoon, I., Tsai, Y. M., Nagy, G., Trautwein, U., & Eccles, J. S. (2012). Achievement, agency, gender, and socioeconomic background as predictor of postschool choices: A multicontext study. Developmental Psychology, 48, 1629-1642. doi: 10.1037/a0029167

Parsons, T., & Bales, R. F. (1955). *Family, socialization and interaction process.* New York: Free Press of Glencoe.

Patel, V., & Goodman, A. (2007). Researching protective and promotive factors in mental

   health. *International Journal of Epidemiology, 36*, 703-707. doi: 10.1093/ije/dym147

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, OR: Castalia

   Press.

Pelletier, L. G., & Vallerand, R. J. (1996). Supervisors' beliefs and subordinates' intrinsic

   motivation: A behavioral confirmatory analysis. *Journal of Personality and Social

   Psychology, 71*, 331-340. doi: 10.1037/0022-3514.71.2.331

Penick, N. I., & Jepsen, D. A. (1992). Family functioning and adolescent career development.

   Career Development Quarterly, 40, 208–222. doi: 10.1002/j.2161-

   0045.1992.tb00327.x

Pettit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E., & Criss, M. M. (2001). Antecedents and

   behavior-problem outcomes of parental monitoring and psychological control in early

   adolescence. *Child Development, 72*, 583-598. doi:10.1111/1467- 8624.00298

Pollock, L. A. (1983). *Forgotten children: Parent-child relations from 1500 to 1900.*

   Cambridge, UK: Cambridge University Press.

Pomerantz, E. M., & Eaton, M. M. (2001). Maternal intrusive support in the academic

   context: Transactional socialization processes. *Developmental Psychology, 37*, 174–

   186. doi: 10.1037//0012-1649.37.2.174

Pomerantz, E. M., & Ruble, D. N. (1998). The role of maternal control in the development of

   sex differences in child self-evaluative factors. *Child Development, 69*, 458–478. doi:

   10.2307/1132178

*Prout, J. T. (2015). *Friendship quality of early adolescent girls in relation to maternal and

   paternal parenting, social anxiety, and interpersonal skill* (Doctoral dissertation).

   Available from ProQuest Disserations and Theses database. (UMI No. 3637625)

R Core Team (2015). *R: A language and environment for statistical computing.* R Foundation

for Statistical Computing, Vienna, Austria. Retrieved from http://www.R-project.org/

R Core Team (2016). R*: A language and environment for statistical computing.* R

Foundation for Statistical Computing, Vienna, Austria. Retrieved from

https://www.R-project.org/

Ratelle, C. F., Guay, F., Larose, S., & Senécal, C. (2004). Family correlates of trajectories of

academic motivation during a school transition: A semiparametric group-based

approach. *Journal of Educational Psychology, 96*, 734-754. doi: 10.1037/0022-

0663.96.4.743

Ratelle, C. F., Larose, S., Guay, F., & Senécal, C. (2005). Perceptions of parental

involvement and support as predictors of college students' persistence in a science

curriculum. *Journal of Family Psychology, 19*, 286-293. doi: 10.1037/0893-

3200.19.2.286

Reeve, J., Deci, E. L. & Ryan, R. M. (2004). Self-determination theory: A dialectical

framework for understanding the socio-cultural influences on student motivation. In

D. Mclnemey & S. Van Etten (Eds.), *Research on sociocultural influences on*

motivation and learning: Big theories revisited (pp. 31-59). Greenwich, CT:

Information Age Press.

Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during

a learning activity. *Journal of Educational Psychology, 98*, 209-218. doi:

10.1037/0022-0663.98.1.209

*Reilly, E. E., Stey, P., & Lapsey, D. K. (2016). A new look at the links between perceived

parenting, socially-prescribed perfectionism, and disordered eating. *Personality and*

Individual Differences, 88, 17-20. doi: 10.1016/j.paid.2015.08.038

Reitman, D., & Asseff, J. (2010). Parenting practices and their relation to anxiety in young adulthood. *Journal of Anxiety Disorders, 24*, 565-572. doi: 10.1016/j.janxdis.2010.03.016

Rhemtulla, M., Brosseau-Liard, P. É., & Savalei, V. (2012). When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM estimation methods under suboptimal conditions. *Psychological Methods, 17*, 354-373. doi: 10.1037/a0029315

*Robbins, R. J. (1995). An assessment of perceived parental autonomy-support and control: Child and parent correlates (Doctoral dissertation). Available from ProQuest Disserations and Theses database. (UMI No. 9523161)

Roberts, G. C., Block, H., & Block, J. (1984). Continuity and Change in Parents' Child-Rearing Practices. *Child Development, 66,* 586-596. doi: 10.2307/1129970

Robilia, M., & Krishnakumar, A. (2006). The impact of maternal depression and parenting behaviors on adolescents' psychological functioning in Romania. *Journal of Child and Family Studies, 15*, 71-82. doi: 10.1007/s10826-005-9009-6

Roeser, R. W., Eccles, J. S., & Freedman-Doan, C. (1999). Academic functioning and mental health in adolescence: Patterns, progressions, and routes from childhood. *Journal of Adolescent Research, 14*, 135–174. doi: 10.1177/0743558499142002

Rohner, R. P. (1976). *They love me, they love me not: A worldwide study of the effects of parental acceptance and rejection*. New Haven, CT: Yale University Press.

Rosenberg, M. (1965). *Society and the Adolescent Self-image.* Princeton, NJ: Princeton University Press.

Rosenthal, R. (1991). *Meta-analytic procedures for social research* (Vol. 6). Newbury Park, CA: Sage.

Rote, W. M., & Smetana, J. G. (2017). Situational and structural variation in youth perceptions of maternal guilt induction. *Developmental Psychology, 53*, 1940-1953. doi: 10.1037/dev0000396

Roth, G., Assor, A., Kanat-Maymon, Y., & Kaplan, H. (2007). Autonomous motivation for teaching: How self-determined teaching may lead to self-determined learning. *Journal of Educational Psychology, 99*, 761–774. doi:10.1037/0022-0663.99.4.761

Rudolph, K. D., Lambert, S. F., Clark, A. G., & Kurlakowsky, K. D. (2001). Negotiating the transition to middle school: The role of self-regulatory processes. *Child Development, 72*, 929–946. doi: 10.1111/1467-8624.00325

*Rueth, J. E., Otterpohl, N., & Wild, E. (2017). Influence of parenting behaviour on psychosocial adjustment in early adolescence: Mediated by anger regulation and moderated by gender. *Social Development, 26*, 40-58. doi: 10.1111/sode.12180

Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy and the self in psychological development. In J. Jacobs (Ed.), *Nebraska symposium on motivation: Developmental perspectives on motivation* (Vol. 40, pp. 1–56). Lincoln: University of Nebraska Press

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*, 749-761. doi: 10.1037/0022-3514.57.5.749

Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry, 11*, 319-338. doi: 10.1207/S15327965PLI1104_03

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. NY: Guilford Publishing.

Ryan, R. M., Deci, E. L., Grolnick, W. S., & La Guardia, J. G. (2006). The significance of

autonomy and autonomy support in psychological development and psychopathology.

In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology* (2nd ed., Vol.

1, pp. 795-849). Hoboken, NJ: Wiley.

Ryan, R. M., Deci, E. L., & Vansteenkiste, M. (2016). Autonomy and autonomy disturbances

in self-development and psychopathology: Research on motivation, attachment, and

clinical process. In D. Cicchetti (Ed.), *Developmental psychopathology, 3rd Edition*

(pp. 385-438). Cambridge, England: Cambridge University Press.

Ryan, R. M., & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and

projective assessments of individual differences in children's perceptions. *Journal of

Personality and Social Psychology, 50*, 550-558. doi: 10.1037/0022-3514.50.3.550

Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living well: A self-determination theory

perspective on eudaimonia. *Journal of Happiness Studies, 9*, 139-170. doi:

10.1007/s10902-006-9023-4

Ryan, R., & Lynch, J. (1989). Emotional autonomy versus detachment: Revisiting the

vicissitudes of adolescence and young adulthood. *Child Development, 60*, 340–356.

doi: 10.2307/1130981

Ryan, R. M., & Stiller, J. (1991). The social contexts of internalization: Parent and teacher

influences on autonomy, motivation and learning. In P. R. Pintrich & M. L. Maehr

(Eds.), *Advances in motivation and achievement* (Vol. 7, pp. 115–149). Greenwich,

CT: JAI Press

Sahlberg, P. (2006). *Raising the bar: How Finland responds to the twin challenge of

secondary education?* Retrieved from

https://www.ugr.es/~recfpro/rev101ART4ing.pdf

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. doi: 10.1016/j.alcr.2009.03.003

Salmela-Aro, K., Kiuru, N., & Nurmi, J. E. (2008). The role of educational track in

adolescents' school burnout: A longitudinal study. *British Journal of Educational

Psychology, 78*, 663-689. doi: 10.1348/000709908x281628

Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009). School-burnout inventory

(SBI): Reliability and validity. *Journal of Psychological Assessment, 25*, 48-57. doi:

10.1027/1015-5759.25.1.48

Salmela-Aro, K. & Little, B. (2007). Mine, yours, ours and other's: Relational aspects of

project pursuit. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal

project pursuit: Goals, action and human flourishing* (pp. 199-220). Mahwah, NJ:

Erlbaum.

Salmela-Aro, K. & Näätänen, P. (2005). *Bergen Burnout Indicator 10*. Helsinki, Finland:

Edita.

Salmela-Aro, K., & Nurmi, J. (1997). Goal contents, well-being, and life context during

transition to university: A longitudinal study. *International Journal of Behavioral

Development, 20*, 471-491. doi: 10.1080/016502597385234

Salmela-Aro, K., Vuori, J., & Koivisto, P. (2007). Adolescents' motivational orientations,

school-subject values, and well-being: A person-oriented approach. *Hellenic Journal

of Psychology, 4*, 310–330. Retrieved from

http://www.pseve.org/journal/UPLOAD/Salmela-Aro4c.pdf

Salokangas, R. K. R., Poutanen, O. & Stengård, E. (1995). Screening for Depression in

Primary Care: Development and Validation of the Depression Scale, a Screening

Instrument for Depression. *Acta Psychiatrica Scandinavica, 92,* 10-16. doi: 10.1111/j.1600-0447.1995.tb09536.x

Sameroff, A. (2010). A unified theory of development: A dialectic integration of nature and nurture. *Child Development, 81*, 6-22. doi: 10.1111/j.1467-8624.2009.01378.x

Sass, D., & Schmitt, T. (2013). Testing measurement and structural invariance: Implications for practice. In T. Teo (Ed.), *Handbook for quantitative methods for educational research* (pp. 315-345). Rotterdam: NL: Sense Publishers.

Satorra, A., & Bentler, P.M. (2010). Ensuring positiveness of the scaled difference chi-square test statistic. *Psychometrika, 75*, 243-248. doi: 10.1007/s11336-009-9135-y

*Scappaticcio, D. (2009). *A comprehensive instrument to measure parental involvement, autonomy support, and structure in children's schooling* (Doctoral dissertation). Available from ProQuest Disserations and Theses database. (UMI No. 3361363)

Schaefer, E. S. (1959) A circumplex model for maternal behavior. *Journal of Abnormal and Social Psychology, 59*, 226-235. doi: 10.1037/h0041114

Schaefer, E. S. (1965). Children's reports of parental behavior: An inventory. *Child Development, 36*, 413–424. doi: 10.2307/1126465

Schultheiss, D. E. P., Kress, H. M., Manzi, A. J., & Glasscock, M. J. (2001). Relational influences in career development: A qualitative inquiry. *Counseling Psychologist, 29*, 214–239. doi: 10.1177/0011000001292003

Schwarz, J. C., Barton-Henry, M. L., & Pruzinsky, T. (1985). Assessing child-rearing behaviors: A comparison of ratings made by mother, father, child, and sibling on the CRPBI. *Child Development, 56*, 462-479. doi: 10.2307/1129734

Sears, R. R., Maccoby, E., & Levin, H. (1957). *Patterns of child rearing.* Evanston, IL: Row, Peterson.

Seidman, E., Allen, L., Aber, J. C., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development, 65*, 507–522. doi: 10.2307/1131399

Sessa, F. M., Avenevoli, S., Steinberg, L., & Morris, A. S. (2001). Correspondence among informants on parenting: Preschool children, mothers, and observers. *Journal of Family Psychology, 15*, 53-68. doi: 10.1037/0893-3200.15.1.53

Sewell, W., Haller, A., & Portes, A. (1969). The educational and early occupational attainment process. *American Sociological Review, 34*, 82–92. doi:10.2307/2092789

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal interference.* Boston, MA: Houghton Mifflin.

Shadish, W. R., & Sweeney, R. B. (1991). Mediators and moderators in meta-analysis: There's a reason we don't let dodo birds tell us which psychotherapies should have prizes. *Journal of Consulting and Clinical Psychology, 59*, 883–893. doi: 10.1037/0022-006X.59.6.883

Sheldon, K. M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons as predictors of effort and attainment. *Personality and Social Psychology Bulletin, 24*, 546-557. doi: 10.1177/0146167298245010

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76*, 482-497. doi: 10.1037//0022-3514.76.3.482

*Sher-Censor, E., Parke, R. D., & Coltrane, S. (2011). Parents' promotion of psychological autonomy, psychological control, and Mexican-American adolescents' adjustment. *Journal of Youth and Adolescence, 40*, 620-632. doi: 10.1007/s10964-010-9552-3

*Shigeto, A. (2010). *Autonomy support, control, and structure at dinnertime: Contributions of parenting and temperament in predicting child adjustment* (Doctoral dissertation). Available from ProQuest Disserations and Theses database. (UMI No. 3452209)

*Shih, S. (2013) Autonomy support versus psychological control, perfectionism, and Taiwanese adolescents' achievement goals. *The Journal of Educational Research, 106*, 269-279. doi: 10.1080/00220671.2012.692734

Shulman, S., Collins, W. A., & Dital, M. (1993). Parent-child relationships and peer-perceived competence during middle childhood and preadolescence in Israel. *Journal of Early Adolescence, 13*, 204-218. doi: 10.1177/0272431693013002005

Siegel, A. E., & Kohn, L. G. (1959). Permissiveness, permission, and aggression: The effects of adult presence or absence on aggression in children's play. *Child Development, 36*, 131-141. doi: 10.2307/1126136

Sijtsma, K. (2009). Reliability beyond theory and into practice. *Psychometrika, 74*, 169-173. doi: 10.1007/S11336-008-9103-Y

*Silk, J. S., Morris, A. S., Kanaya, T., & Steinberg, L. (2003). Psychological control and autonomy granting: Opposite ends of a continuum or distinct constructs. *Journal of Research on Adolescence, 31*, 113-128. doi: 10.1111/1532-7795.1301004

Simmons, R. G., & Blyth, D. A. (1987). *Moving into adolescence: The impact of pubertal change and school context*. Hawthorne, NY: Aldine de Gruyter

Siqueland, L., Kendall, P. C., & Steinberg, L. (1996). Anxiety in children: Perceived family environments and observed family interaction. *Journal of Clinical Child Psychology, 25*, 225-237, doi: 10.1207/s15374424jccp2502_12

Skinner, E., Johnson, S., & Snyder, T. (2005). Six dimensions of parenting: A motivational model. *Parenting: Science and Practice, 5*, 175-235. doi: 10.1207/s15327922par0502_3

Smetana, J. G. (1988). Adolescents' and parents' conceptions of parental authority. *Child Development, 59*, 321–335. doi: 10.2307/1130313

Smetana, J. G. (2000). Middle-class African American adolescents' and parents' conceptions of parental authority and parenting practices: A longitudinal investigation. *Child Development, 71*, 1672-1686. doi: 10.1111/1467-8624.00257

Smetana, J. G. (2011). *Adolescents, families, and social development: How teens construct their worlds*. West Sussex, UK: Wiley-Blackwell.

Smetana, J. G., Campione-Barr, N., & Daddis, C. (2004). Longitudinal development of family decision-making: Defining healthy behavioural autonomy for middle-class African American adolescents. *Child Development, 75*, 1418-1434. doi: 10.1111/j.1467-8624.2004.00749.x

Soenens, B., & Beyers, W. (2012). The cross-cultural significance of control and autonomy in parent-adolescent relationships. *Journal of Adolescence, 35*, 243-248. doi: 10.1016/j.adolescence.2012.02.007

Soenens, B., Luyckx, K., Vansteenkiste, M., Duriez, B., & Goossens, L. (2008). Clarifying the link between parental psychological control and adolescents' depressive symptoms: Reciprocal versus unidirectional models. *Merril-Palmer Quarterly, 54*, 411-444. doi: 10.1353/mpq.0.0005

Soenens, B., & Vansteenkiste, M. (2005). Antecedents and outcomes of self-determination in three life domains: the role of parents' and teachers' autonomy support. *Journal of Youth and Adolescence, 34*, 589-604. doi: 10.1007/s10964-005-8948-y

Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Review, 30*, 74-99. doi: 10.1016/j.dr.2009.11.001.

Soenens, B., Vansteenkiste, M., Duriez, B., & Goossens, L. (2006). In search of the sources of psychologically controlling parenting: The role of parental separation anxiety and parental maladaptive perfectionism. *Journal of Research on Adolescence, 16*, 539-559. doi: 10.1111/j.1532-7795.2006.00507.x

Soenens, B., Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., & Ryan, R. M. (2007). Conceptualizing parental autonomy support: Adolescent perceptions of promotion of independence versus promotion of volitional functioning. *Developmental Psychology, 43*, 633-646. doi: 10.1037/0012-1649.43.3.633

Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2006). Parenting and adolescent problem behavior: An integrated model with adolescent self-disclosure and perceived parental knowledge as intervening variables. *Developmental Psychology, 42*, 305–318. doi: 10.1037/0012-1649.42.2.305

Soenens, B., Vansteenkiste, M., & Luyten, P. (2010). Towards a domain-specific approach to the study of parental psychological control: distinguishing between dependency-oriented and achievement-oriented psychological control. *Journal of Personality, 78*, 217-256. doi: 10.1111/j.1467-6494.2009.00614.x

Soenens, B., Vansteenkiste, M., Luyten, P., Duriez, B., & Goossens, L. (2005). Maladaptive perfectionistic self-representations: The mediational link between psychological control and adjustment. *Personality and Individual Differences, 38*, 487-498. doi: 10.1016/j.paid.2004.05.008

Soenens, B., Park, S., Vansteenkiste, M., & Mouratidis, A. (2012). Perceived parental psychological control and adolescent depressive experiences: A cross-cultural study with Belgian and South-Korean adolescents. *Journal of Adolescence, 35*, 261–272. doi: 10.1016/j.adolescence.2011.05.001

*Soenens, B., Vansteenkiste, M., Niemiec, C. P. (2009). Should parental prohibition of

 adolescents' peer relationships be prohibited? *Personal Relationships, 16*, 507-530.

 doi: 10.1111/j.1475-6811.2009.01237.x

Soenens, B., Vansteenkiste, M., & Sierens, E. (2009). How are parental psychological control

 and autonomy-support related? A cluster-analytic approach. *Journal of Marriage and*

 Family, 71, 187-202. doi: 10.1111/j.1741-3737.2008.00589.x

Solantaus, T., Leinonen, J., & Punamäki, R. L. (2004). Children's mental health in times of

 economic recession: Replication and extension of the family economic stress model in

 Finland. *Developmental Psychology, 40*, 412-429. doi: 10.1037/0012-1649.40.3.412

Steenkamp, J. B. E. M., & Baumgartner, H. (1998). Assessing measurement invariance in

 cross-national consumer research. *Journal of Consumer Research, 25*, 78-90. doi:

 10.1086/209528

Stefanou, C. R., Perencevich, K. C., DiCintio, M., & Turner, J. C. (2004). Supporting

 autonomy in the classroom: Ways teachers encourage student decision making and

 ownership. *Educational Psychologist, 39*, 97-110. doi: 10.1207/s15326985cp3902_2

Steinberg, L. (1987). Impact of puberty on family relations: Effects of pubertal status and

 pubertal timing. *Developmental Psychology, 23*, 451-460. doi: 10.1037/0012-

 1649.23.3.451

Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In S. S.

 Feld- man & G. R. Elliot (Eds.), *At the threshold: The developing adolescent* (pp.

 255-276). Cambridge, MA: Harvard University Press

Steinberg, L. (2005). Psychological control: Style or substance? In J. Smetana (Ed.), *New*

 directions for child and adolescent development (pp. 71-78). San Francisco: Jossey-

 Bass

Steinberg, L. (2014). *Age of opportunity: Lessons from the new science of adolescence.* Houghton Mifflin Harcourt.

Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development, 60*, 1424-1436.

Steinberg, L., Mounts, N. S., Lamborn, S. D., & Dornbusch, S. M. (1991). Authoritative parenting and adolescent adjustment across varied ecological niches. *Journal of Research on Adolescence, 1*, 19-36. doi: 10.2307/1131151

Steinberg, L., & Silk, J. S. (2002). Parenting adolesents. In M. H. Bornstein (Ed.), *Handbook of parenting Volume 1: Children and parenting* (pp. 103-133). Mahwah, NJ: Lawrence Erlbaum Associates Inc.

Steinberg, L., & Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57*, 841-851. doi: 10.2307/1130361

Sterne, J., Egger, M., & Moher, D. (2011). Chapter 10: Addressing reporting biases. In J. Higgins & S. Green (Eds.), *Cochrane handbook for systematic reviews of intervention.* Version 5.1.0. Retrieved from http://handbook.cochrane.org/

Steward, F. (1999). *Income distribution and development*. NY: United Nations.

Stormshak, E. A., Dishion, T. J., Light, J., & Yasui, M. (2005). Implementing family-centered interventions within the public middle school: Linking service delivery to change in student problem behavior. *Journal of Abnormal Child Psychology, 33*, 723-733. doi: 10.1007/s10802-005-7650-6

Sturaro, C., Denissen, J. J., van Aken, M. A., & Asendorpf, J. B. (2008). Person-environment transactions during emerging adulthood. *European Psychologist, 13*, 1–11. doi: 10.1027/1016-9040.13.1.1

Su, Y., & Reeve, J. (2011). A meta-analysis of the effectiveness of intervention programs

    designed to support autonomy. *Educational Psychology Review, 23*, 159-188. doi:

    10.1007/s10648-010-9142-7

Suchman, N. E., Rounsaville, B., DeCoste, C., & Luthar, S. (2007). Parental control, parental

    warmth, and psychosocial adjustment in a sample of substance-abusing mothers and

    their school-aged and adolescent children. *Journal of Substance Abuse Treatment, 32*,

    1-10. doi: 10.1016/j.jsat.2006.07.002

Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of*

    Vocational Behavior, 16, 282–298. doi: 10.1016/0001-8791(80)90056-1

Sutin, A., & Costa, P. Jr. (2010). Reciprocal influences of personality and job characteristics

    across middle adulthood. *Journal of Personality, 78*, 257–288. doi: 10.1111/j.1467-

    6494.2009.00615.x

Symonds, P. M. (1939). *The dynamics of parent-child relationship*. NY: Appleton-Century.

Tamis-LeMonda, C. S., & Cabrera, N. (2002). *Handbook of father involvement:*

    Multidisciplinary perspectives. Mahwah, NJ: Erlbaum.

Tanner, J. L. (2006). Recentering during emerging adulthood: A critical turning point in life

    span human development. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in*

    America: Coming of age in the 21st century (pp. 21-55). Washington, DC: American

    Psychological Association.

Terwee, C. B., Bot, S. D. M, de Boer, M. R., van der Windt, D. A. W., Knol, D. L., Dekker,

    J., de Vet, H. C. W. (2007). Quality criteria were proposed for measurement

    properties of health status questionnaires. *Journal of Clinical Epidemiology, 60*, 34-

    42. doi: 10.1016/j.jclinepi.2006.03.012

Thirlwall, K., & Creswell, C. (2010). The impact of maternal control on children's anxious

cognitions, behaviours and affect: An experimental study. *Behaviour Research*

Therapy, 48, 1041-1046. doi: 10.1016/j.brat.2010.05.030

*Tremblay, M. A. (2009). *There is more to control than the absence of autonomy:*

Conceptual distinctions between autonomy support, behavioral control, and

psychological control (Doctoral dissertation). Retrieved from

http://hdl.handle.net/10393/29627

Tynkkynen, L., Nurmi, J. E., & Salmela-Aro, K. (2010). Career goal-related social ties during

two educational transitions: Antecedents and consequences. *Journal of Vocational*

Behavior, 76, 448-457. doi: 10.1016/j.jvb.2009.12.001

Vallerand, R. J., Fortier, M. S., & Guay, F. (1997). Self-determination and persistence in a

real-life setting: Toward a motivational model of high school dropout. *Journal of*

Personality and Social Psychology, 72, 1161–1176. doi: 10.1037/0022-

3514.72.5.1161

Van den Berghe, L., Cardon, G., Aelterman, N., Tallir, I. B., Vansteenkiste, M., & Haerens,

L. (2013). Emotional exhaustion and motivation in physical education teachers: A

variable-centered and person-centered approach. *Journal of Teaching in Physical*

Education, 32, 305-320. doi: 10.1123/jtpe.32.3.305

Van den Noortgate, W., & Onghena, P. (2003). Multilevel meta-analysis: A comparison with

traditional meta-analytical procedures. *Educational and Psychological Measurement,*

63, 765–790. doi:10.1177/0013164403251027

*van der Bruggen, C. O., Stams, G. J. J., Bögels, S. M., & Paulussen-Hoogeboom, M. C.

(2010). Parenting behaviour as a mediator between young children's negative

emotionality and their anxiety/depression. *Infant and Child Development, 19*, 354-

365. doi: 10.1002/icd.665

Van der Giessen, D., Branje, S., & Meeus, W. (2014). Perceived autonomy support from

parents and best friends: Longitudinal associations with adolescents' depressive

symptoms. *Social Development, 23*, 537-555. doi: 10.1111/sode.12061

van der Kaap-Deeder, J., Vansteenkiste, M., Soenens, B., & Mabbe, E. (2016). Children's

daily well-being: The role of mothers', teachers', and siblings' autonomy support and

psychological control. *Developmental Psychology.* doi: 10.1037/dev0000218

van Petegem, S., Beyers, W., Vansteenkiste, M., & Soenens, B. (2012). On the association

between adolescent autonomy and psychosocial functioning: Examining decisional

(in)dependence from a self-determination theory perspective. Developmental

Psychology, 48, 76-88. doi: 10.1037/a0025307

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement

invariance literature: Suggestions, practices, and recommendations for organizational

research. *Organizational Research Methods, 3*, 4-70. doi:10.1177/109442810031002

Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal-contents in

self-determination theory: Another look at the quality of academic motivation.

Educational Psychologist, 41, 19–31. doi: 10.1207/s15326985ep4101_4

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic

psychological need satisfaction and need frustration as a unifying principle. Journal of

Psychotherapy Integration, 23, 263-280. doi: 10.1037/a0032359

Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the

motivational impact of intrinsic versus extrinsic goal framing and autonomy-

supportive versus internally controlling communication style on early adolescents'

academic achievement. *Child Development, 76,* 483-501. doi: 10.1111/j.1467-

8624.2005.00858.x

Vansteenkiste, M., Soenens, B. & Duriez, B. (2008). Presenting a positive alternative to

 materialistic strivings and the thin-ideal: Understanding the effects of extrinsic

 relative to intrinsic goal pursuits. In S. J. Lopez (ed.), *Positive psychology: Exploring*

 the best in people (Vol. 4, pp. 57–86). Westport, CT: Greenwood Publishing.

*Vansteenkiste, M., Soenens, B., Van Petegem, S., & Duriez, B. (2014). Longitudinal

 associations between adolescent perceived degree and style of parental prohibition

 and internalization and defiance. *American Psychological Association, 50*, 229-236.

 doi: 10.1037/a0032972

*Vansteenkiste, M., Zhou, M., Lens, W., & Soenens, B. (2005). Experiences of autonomy

 and control among Chinese learners: Vitalizing or Immobilizing? *Journal of*

 Educational Psychology, 97, 468-483. doi: 10.1037/0022-0663.97.3.468

Vasalampi, K., Salmela-Aro, K., & Nurmi, J. E. (2010). Education-related goal appraisals

 and self-esteem during the transition to secondary education: A longitudinal study.

 International Journal of Behavioral Development, 34, 481-490. doi:

 10.1177/0165025409359888

Véronneau, M. H., Koestner, R. F., & Abela, J. R. Z. (2005). Intrinsic need satisfaction and

 well-being in children and adolescents: An application of the Self-Determination

 Theory. *Journal of Social and Clinical Psychology, 24*, 280–292. doi:

 10.1521/jscp.24.2.280.62277

Volling, B. L., & Belksy, J. (1992). The contribution of mother-child and father-child

 relationships to the quality of sibling interaction: A longitudinal study. Child

 Development, 63, 1209-1222. doi: 10.1111/j.1467-8624.1992.tb01690.x

*Wang, Q., Chan, H. W., & Lin, L. (2012). Antecedents of Chinese parents' autonomy

 support and psychological control: The interplay between parents' self-development

socialization goals and adolescents' school performance. *Journal of Youth and Adolescence, 41*, 1442-1454. doi: 10.1007/s10964-012-9760-0

Wang, M. T., Dishion, T. J., Stormshak, E. A., & Willet, J. B. (2011). Trajectories of family management practices and early adolescent behavioural outcomes. *Developmental Psychology, 47*, 1324-1341. doi: 10.1037/a0024026

*Wang, Q., Pomerantz, E. M., & Chen, H. C. (2007). The role of parents' control in early adolescents' psychological functioning: A longitudinal investigation in the United States and China. *Child Development, 78*, 1592-1610. doi: 10.1111/ j.1467-8624.2007.01085.x

Watson, J. B. (1928). *Psychological care of infant and child*. NY: Norton.

Whipple, N., Bernier, A., & Mageau, G. A. (2011). Broadening the study of infant security of attachment: Maternal autonomy- support in the context of infant exploration. *Social Development, 20*, 17–32. doi:10.1111/j.1467-9507.2010.00574.x.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297-333. doi: 10.1037/h0040934

White, R. L., Babic, M. J., Parker, P. D., Lubans, D. R., Astell-Burt, T., & Lonsdale, C. (2017). Domain-specific physical activity and mental health: A meta-analysis. *American Journal of Preventive Medicine, 52*, 653-666. doi: 10.1016/j.amepre.2016.12.008

Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial invariance within longitudinal structural equation models: Measuring the same construct across time. *Child Development Perspectives, 4*, 10-18. doi:10.1111/j.1750-8606.2009.00110.x

Wigfield, A., Eccles, J. S., & Pintrich, P. R. (1996). Development between the ages of eleven and twenty-five. In D. C. Berliner & R. C. Calfee (Eds.), *The handbook of educational psychology* (pp. 148–185). NY: Macmillan.

Williams, G. C., Cox, E. M., Hedberg, V. A., & Deci, E. L. (2000). Extrinsic life goals and health-risk behaviors in adolescents. *Journal of Applied Social Psychology, 30*, 1756–1771. doi:10. 1111/j.1559-1816.2000.tb02466.x.

Wood, J. J., McLeod, B. D., Sigman, M., Hwang, W.-C., & Chu, B. C. (2003). Parenting and childhood anxiety: Theory, empirical findings, and future directions. Journal of Child *Psychology and Psychiatry, 44*, 134–151. doi:10.1111/1469-7610.00106.

Wray-Lake, L., Crouter, A. C., & McHale, S. M. (2010). Developmental patterns in decision-making autonomy across middle childhood and adolescence: European American parents' perspectives. *Child Development, 81*, 636–651. doi: 10.1111/j.1467-8624.2009.01420.x

Zarrett, N., & Eccles, J. (2006). The passage to adulthood: Challenges of late adolescence. *New Directions for Youth Development, 11*, 13-28. doi: 10.1002/yd.179

*Zhoa, J., & Wang, M. (2014). Mothers' academic involvement and children's achievement: Children's theory of intelligence as a mediator. *Learning and Individual Differences, 35*, 130-136. doi: 10.1016/j.lindif.2014.06.006

Supplementary Material Chapter 5

Appendix A

Full Search Term Systematic Review

(("autonom* support*" OR "autonom* grant*" OR "psych* autonom*") AND ("psycholog* control*" OR "control*") AND parent*)

Appendix B

Detailed Information of Eligible Meta-Analysis Studies

Table B1

Summary of Studies Included in the Meta-Analysis

Author and Data Point	Country	Sample	Mean age (in years)	Report type	Report target	Autonomy Measure	Control Measure
Anderson (2005) - 1	United States	60	10.1	Child	Combined	Silk et al., 2003	PCS-YSR
Anderson (2005) - 2	United States	65	9.8	Child	Combined	Silk et al., 2003	PCS-YSR
Bean (2009) - 1	United States	349 (0% female)	16.3	Child	Mother	CRPBI	PCS-YSR
Bean (2009) - 2	United States	349 (0% female)	16.3	Child	Father	CRPBI	PCS-YSR
Bean (2009) - 3	United States	466 (100% female)	16.3	Child	Mother	CRPBI	PCS-YSR
Bean (2009) - 4	United States	466 (100% female)	16.3	Child	Father	CRPBI	PCS-YSR
Bögels (2004)	Netherlands	108 (47% female)	10.3	Observer	Combined	MFP	CRPBI
Bureau (2014)	Canada	167 (56% female)	13.1	Child	Combined	P-PASS	PCS-YSR
Cheung (2013) - 1	United States	374 (50% female)	12.8	Child	Combined	Own measure	Own measure
Cheung (2013) - 2	China	451 (47% female)	12.7	Child	Combined	Own measure	Own measure
Cheung (2016) - 1	United States	203 (48% female)	13.3	Child	Mother	Own measure	Own measure
Cheung (2016) - 2	United States	203 (48% female)	13.3	Parent	Mother	Own measure	Own measure
Cheung (2016) - 3	China	191 (42% female)	13.1	Child	Mother	Own measure	Own measure
Cheung (2016) - 4	China	191 (42% female)	13.1	Parent	Mother	Own measure	Own measure
Cheung (2016) - 5	United States	203 (48% female)	13.3	Observer	Mother	Own Coding	Own Coding
Cheung (2016) - 6	China	191 (42% female)	13.1	Observer	Mother	Own Coding	Own Coding
Churchill Keating (2008) - 1	Canada	300 (61% female)	9.9	Child	Mother	PPAGS-C	PPPCS-C
Churchill Keating (2008) - 2	Canada	300 (61% female)	9.9	Parent	Mother	PPAGS-P	PPPCS-P
Costa (2015) - 1	Italy	121 (100% female)	20.3	Child	Mother	POPS	PCS-YSR
Costa (2015) - 2	Italy	121 (100% female)	20.3	Child	Father	POPS	PCS-YSR

(continued)

Author and Data Point	Country	Sample	Mean age (in years)	Report type	Report target	Autonomy Measure	Control Measure
Fousiani (2016)	Cyprus	548 (52% female)	16	Child	Combined	POPS	PCS-YSR
Gong (2016)	United States	382 (81% female)	20.2	Child	Combined	Silk et al., 2003	PCS-YSR
Gonida (2014)	United States	282 (54% female)	12	Parent	Combined	Own measure	Own measure
Grolnick (1996) - 1	United States	53 (58% female)	15.1	Parent	Mother	Own coding	CRPBI
Grolnick (1996) - 2	United States	38 (58% female)	15.1	Parent	Father	Own coding	CRPBI
Harvey (2016)	Canada	100 (57% female)	3.6	Observer	Mother	Own coding	Own coding
Hasan (2002)	United States	81 (49% female)	10.3	Parent	Mother	Own measure	Own measure
Hauser Kunz (2013) - 1	United States	90 (50% female)	11.3	Observer	Mother	PCS-OBS	PCS-OBS
Hauser Kunz (2013) - 2	United States	90 (50% female)	11.3	Observer	Father	PCS-OBS	PCS-OBS
Inguglia (2016) - 1	Italy	494 (56% female)	22.1	Child	Combined	Soenens et al., 2007	DAPCS
Inguglia (2016) - 2	United States	414 (72% female)	21.1	Child	Combined	Soenens et al., 2007	DAPCS
Inguglia (2016) - 3	Italy	494 (56% female)	22.1	Child	Combined	Soenens et al., 2007	DAPCS
Inguglia (2016) - 4	United States	414 (72% female)	21.1	Child	Combined	Soenens et al., 2007	DAPCS
Jahromi (2014)	Mexico	191 (100% female)	16.3	Child	Mother	BAS	PCS-YSR
Jeon (2007)	South Korea	248 (36% female)	13.7	Parent	Combined	POPS	PPCS
Karbach (2013)	Germany	334 (51% female)	12.4	Child	Combined	Own measure	Own measure
Kim (2009) - 1	United States	61 (46% female)	14.5	Child	Combined	Robbins, 1995	Robbins, 1995
Kim (2009) - 2	South Korea	77 (55% female)	14.5	Child	Combined	Robbins, 1995	Robbins, 1995
Kim (2010) - 1	South Korea	191 (45% female)	13.5	Child	Combined	Robbins, 1995	Robbins, 1995
Kim (2010) - 2	South Korea	192 (100% female)	17	Child	Combined	Robbins, 1995	Robbins, 1995
Luyckx (2007)	Belgium	449 (100% female)	18.6	Child	Combined	POPS	PCS-YSR
Mageau (2016)	Canada	67 (19% female)	14	Child	Mother	P-PASS	P-PASS
Mageau (2015) - 1	Canada	195 (62% female)	18.8	Child	Combined	P-PASS	PCS-YSR
Mageau (2015) - 2	Canada	287 (64% female)	18.5	Child	Combined	P-PASS	PCS-YSR

Author and Data Point	Country	Sample	Mean age (in years)	Report type	Report target	Autonomy Measure	Control Measure
Marbell (2013)	Ghana	93 (52% female)	12	Child	Combined	Own measure	Own measure
Meuwissen (2015)	United States	110 (48% female)	3.1	Observer	Father	Own coding	Own coding
Mih (2015)	Romania	189 (51% female)	16.7	Child	Combined	BRQ	PCS-YSR
Miklikowska (2011)	Finland	1343 (56% female)	16.9	Child	Combined	POPS	CRPBI
Nyhus (2013)	Norway	548 (50% female)	14.4	Child	Combined	Silk et al., 2003	Silk et al., 2003
Pan (2013)	China	321 (51% female)	14.5	Parent	Combined	Silk et al., 2003	Silk et al., 2003
Prout (2015) - 1	United States	41 (100% female)	12.9	Child & Parent	Mother	PCRI	PCS-YSR
Prout (2015) - 2	United States	38 (100% female)	12.9	Child & Parent	Father	PCRI	PCS-YSR
Reilly (2016) - 1	United States	333 (100% female)	19.6	Child	Mother	Soenens et al., 2007	PCS-YSR
Reilly (2016) - 2	United States	333 (100% female)	19.6	Child	Father	Soenens et al., 2007	PCS-YSR
Robbins (1995) - 1	United States	190 (64% female)	19.6	Child	Mother	Own measure	Own measure
Robbins (1995) - 2	United States	190 (64% female)	19.6	Child	Father	Own measure	Own measure
Robbins (1995) - 3	United States	170 (59% female)	19.6	Child	Mother	Own measure	Own measure
Robbins (1995) - 4	United States	166 (57% female)	19.6	Child	Father	Own measure	Own measure
Rueth (2017) - 1	Germany	492	10.8	Parent	Combined	Own measure	Own measure
Rueth (2017) - 2	Germany	431	10.8	Parent	Combined	Own measure	Own measure
Rueth (2017) - 3	Germany	492	10.8	Child	Combined	Own measure	Own measure
Rueth (2017) - 4	Germany	431	10.8	Child	Combined	Own measure	Own measure
Scappaticcio (2009)	United States	232 (50% female)	9.4	Parent	Combined	PCRI	PASI
Sher-Censor (2011) - 1	Mexico	134 (55% female)	10.8	Child	Combined	CRPR	CRPR
Sher-Censor (2011) - 2	United States	83	13	Child	Combined	CRPR	CRPR
Shigeto (2011) - 1	United States	66 (48% female)	4.9	Observer	Mother	Own coding	Own coding
Shigeto (2011) - 2	United States	66 (48% female)	4.9	Observer	Father	Own coding	Own coding
Shih (2013)	Taiwan	512 (51% female)	13.5	Child	Combined	POPS	PPCS
Silk (2003)	United States	9654	16	Child	Combined	Own measure	Own measure

Author and Data Point	Country	Sample	Mean age (in years)	Report type	Report target	Autonomy Measure	Control Measure
Soenens (2007)	Belgium	390 (79% female)	18.7	Child	Combined	PVF	PCS-YSR
Soenens, Vansteenkiste, Niemiec (2009)	Belgium	234 (65% female)	16.5	Child	Combined	Own measure	Own measure
Soenens, Vansteenkiste, Sierens (2009)	Belgium	495 (74% female)	19.3	Child	Combined	Soenens et al., 2007 - PVF	PCS-YSR
Tremblay (2008)	Canada	300 (72% female)	19.4	Child	Combined	IBS	Own measure
van der Bruggen (2010) - 1	Netherlands	35 (51% female)	3.7	Observer	Mother	Own coding	Own coding
van der Bruggen (2010) - 2	Netherlands	35 (51% female)	3.7	Observer	Father	Own coding	Own coding
Vansteenkiste (2014) - 1	Belgium	228 (55% female)	16.5	Child	Mother	Own measure	Own measure
Vansteenkiste (2014) - 2	Belgium	304 (45% female)	16.5	Child	Mother	Own measure	Own measure
Vansteenkiste (2005)	China	77 (45% female)	22.6	Child	Combined	Own measure	Own measure
Wang (2012)	China	341 (58% female)	13.3	Child	Combined	Own measure	Own measure
Wang (2007) - 1	United States	373 (50% female)	12.8	Child	Combined	Own measure	Own measure
Wang (2007) - 2	China	433 (48% female)	12.7	Child	Combined	Own measure	Own measure
Zhao (2014)	China	524 (53% female)	13.9	Child	Mother	Own measure	Own measure

Note: Only first author listed for brevity; CRPR, Child Rearing Practices Report; POPS, Perception of Parents Scale; PRQ, Parenting Relationship Questionnaire; P-PASS, Perceived Parental Autonomy Support Scale; PARI, Parental Attitude Questionnaire; PCRI, Parent-Child Relationship Inventory; CRPBI, Child Report of Parent Behaviour Inventory; BAS, Behaviural Autonomy Scale; MFP, Mother-Father-Peer Inventory; PPAGS, Perceived Parental Autonomy Granting Scale; BRQ, Balanced Relatedness Questionnaire; IBS, Interpersonal Behavior Scale; PCS-YSR, Psychological Control Scale - Youth Self-Report (-OBS, Observer); PPCS, Parental Psychological Control Scale (PPPCS, perceived version).

Appendix C

Risk of Bias of Eligible Meta-Analysis Studies

Table C1

Risk of Bias of Studies Included in the Meta-Analysis

Author	Random Selection of Schools or Participants	Statistical Power Calculated and Sufficient	Autonomy Support Measure Valid	Psychological Control Measure Valid	Latent Correlation Used	Total Risk of Bias Score (Out of 5)
Anderson (2005)	0	0	1	1	0	2
Bean (2009)	0	0	0	0	0	0
Bögels (2004)	0	0	1	1	0	2
Bureau (2014)	0	0	1	1	0	2
Cheung (2013)	0	0	0	0	0	0
Cheung (2016)	0	0	0	0	0	0
Churchill Keating (2008)	1	0	1	1	0	3
Costa (2015)	0	0	0	1	0	1
Fousiani (2016)	0	0	1	1	1	3
Geurtzen (2015)	0	0	1	1	0	2
Gong (2016)	0	0	1	1	0	2
Gonida (2014)	0	0	0	0	1	1
Grolnick (1996)	1	0	0	1	0	2
Harvey (2016)	0	0	1	1	0	2
Hasan (2002)	1	0	1	1	0	3
Hauser Kunz (2013)	0	0	0	0	0	0
Inguglia (2016)	0	0	1	1	0	2
Jahromi (2014)	0	0	1	0	0	1
Jeon (2007)	0	0	1	1	0	2
Karbach (2013)	0	0	0	0	0	0
Kim (2009)	0	0	0	0	0	0
Kim (2010)	1	0	1	0	0	2
Luyckx (2007)	0	0	0	1	0	1
Mageau (2015)	0	0	1	1	0	2
Magueau (2016)	0	0	1	1	0	2
Marbell (2013)	0	0	0	0	0	0
Meuwissen (2015)	0	0	1	1	0	2
Mih (2015)	0	0	0	1	0	1
Miklikowska (2011)	1	0	0	1	0	2
Nyhus (2013)	0	0	0	0	0	0
Pan (2013)	1	0	1	1	1	4
Prout (2015)	0	0	1	1	0	2

Author	Random Selection of Schools or Participants	Statistical Power Calculated and Sufficient	Autonomy Support Measure Valid	Psychological Control Measure Valid	Latent Correlation Used	Total Risk of Bias Score (Out of 5)
Reilly (2016)	0	0	1	1	0	2
Robbins (1995)	0	0	1	1	0	2
Rueth (2017)	0	0	1	1	0	2
Scappaticcio (2009)	0	1	1	1	0	3
Sher-Censor (2011)	0	0	1	1	0	2
Shigeto (2011)	0	0	0	0	0	0
Shih (2013)	0	0	1	1	0	2
Silk (2003)	0	0	1	1	1	3
Soenens (2007)	0	0	1	1	0	2
Soenens, Vansteenkiste, & Niemiec (2009)	0	0	1	1	0	2
Soenens, Vansteenkiste, & Sierens (2009)	0	0	1	1	0	2
Tremblay (2008)	1	0	1	0	0	2
van der Bruggen (2010)	0	0	0	0	0	0
Vansteenkiste (2005)	1	0	0	0	0	1
Vansteenkiste (2014)	0	0	1	1	0	2
Wang (2007)	0	0	0	0	0	0
Wang (2012)	0	0	0	0	0	0
Zhao (2014)	0	0	0	0	1	1

Note: Only first author listed for brevity; 1, present or explained explicitly; 0, absent or explained inadequately

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Appendix D

Zero-Order Correlations

Table D1

Pearson's r Zero-Order Correlation of Parenting Variables for each Report Type and Target with Well-Being

	amp	afp	amy	afy	cmp	cfp	cmy	cfy	dep	se	ls	ee	cy
Autonomy Mother Parent													
Autonomy Father Parent	.06												
Autonomy Mother Youth	.21*	.14											
Autonomy Father Youth	.12	.23*	.63***										
Control Mother Parent	.34***	.07	.06	-.03									
Control Father Parent	.17	.27*	.06	-.07	.36**								
Control Mother Youth	.15	.03	.10	.17*	.27**	.15							
Control Father Youth	.22*	.02	.41***	.50***	.31***	.13	.66***						
Depressive Symptoms	.01	-.02	-.25***	-.24**	.05	-.03	.16*	-.04					
Self-esteem	.12	.06	.25***	.27***	.03	-.05	-.17*	.05	-.55***				
Life Satisfaction	.05	.06	.51***	.41***	.01	-.01	-.05	.19**	-.56***	.62***			
Emotional Exhaustion	.11	-.21*	-.01	-.07	-.01	-.07	.08	.08	.39***	-.18*	-.16*		
Cynicism	-.03	-.13	-.35***	-.29***	-.15	-.10	.10	-.14	.49***	-.42***	-.48***	.24**	
Inadequacy	.03	-.17	-.19**	-.16*	.00	-.06	.19**	.00	.50***	-.45***	-.44***	.44***	.74***

Appendix E

Latent Mean Difference Results

Table E1

Latent Mean Differences Between and Within Autonomy Support and Psychological Control, Report Types, and Parental Genders

	Autonomy	Control	Youth Report	Parent Report	Mother	Father
Overall difference						
Autonomy and	-	0.97*** (.07)	-	-	-	-
Youth Report and	-	-	-	-0.51*** (.08)	-	-
Mother and	-	-	-	-	-	0.22*** (.05)
Partial-aggregated difference						
Autonomy and Control for	-	-	0.95*** (.11)	0.99*** (.08)	1.03*** (.08)	0.91*** (.09)
Youth and Parent report for	-0.53*** (.09)	-0.49*** (.10)	-	-	-0.43*** (.08)	-0.59*** (.10)
Mother and Father for	0.28*** (.07)	0.16* (.07)	0.30*** (.05)	0.14 (.09)	-	-
Fully separated difference						
Autonomy and Control for Youth and	-	-	-	-	0.90*** (.12)	1.00*** (.12)
Autonomy and Control for Parent and	-	-	-	-	1.16*** (.09)	0.81*** (.11)
Youth and Parent for Mother and	-0.56*** (.09)	-0.30** (.11)	-	-	-	-
Youth and Parent for Father and	-0.49*** (.12)	-0.68*** (.14)	-	-	-	-
Mother and Father for Autonomy and	-	-	0.25** (.09)	0.31** (.09)	-	-
Mother and Father for Control and	-	-	0.35*** (.06)	-0.03 (.13)	-	-

* $p < .05$, ** $p < .01$, *** $p < .00$

Notes: Mean difference is reported in *d*

Appendix F

Latent Correlation Results

Table F1

Latent Correlations and Standard Error Between and Within Autonomy Support and Psychological Control, Report Types, and Parental Genders

	Autonomy	Control	Youth Report	Parent Report	Mother	Father
Overall relationship						
Autonomy with	-	.17** (.05)	-	-	-	-
Youth Report with	-	-	-	.17** (.05)	-	-
Mother with	-	-	-	-	-	.25*** (.04)
Partial-aggregated relationship						
Autonomy and Control with	-	-	.18* (.08)	.29** (.08)	.20* (.07)	.18* (.08)
Youth and Parent report with	.21* (.08)	.28** (.08)	-	-	.24** (.08)	.11 (.09)
Mother and Father with	.27*** (.07)	.43*** (.06)	.46*** (.05)	.29*** (.07)	-	-
Fully separated relationship						
Autonomy and Control in Youth with	-	-	-	-	.09 (.11)	.25* (.10)
Autonomy and Control in Parent with	-	-	-	-	.45** (.09)	.41* (.15)
Youth and Parent in Mother with	.29** (.11)	.40** (.11)	-	-	-	-
Youth and Parent in Father with	.21 (.14)	.15 (.14)	-	-	-	-
Mother and Father in Autonomy with	-	-	.65*** (.09)	.09 (.15)	-	-
Mother and Father in Control with	-	-	.80*** (.06)	.37* (.14)	-	-

* $p < .05$, ** $p < .01$, *** $p < .00$

Appendix G

Measures Used

All items used to measure psychological control, depressive symptoms, self-esteem, life satisfaction, and all subscales of school related burnout (i.e., emotional exhaustion, cynicism, and inadequacy) can be found in this appendix. Information on the Autonomy Support Index used to measure autonomy supportive parenting can be found in the supplementary material of Chapter 7.

Table G1

Child Rearing Practices Report Questionnaire Items used to Measure Psychologically Controlling Parenting

	Questionnaire items
1.	My mother/father often reminds me of all the things s/he has done for me.
2.	If I behave badly or inappropriately, my mother/father clearly shows s/he is disappointed and ashamed.
3.	My mother/father thinks I should appreciate how good things are.
4.	My mother/father often reminds me how much s/he has sacrificed for me.

Notes: Questionnaire items come from Aunola and Nurmi (2004) and Roberts, Block, and Block (1984).

Table G2

DEPS Depression Scale Items used to Measure Depressive Symptoms

	Questionnaire items
1.	I have suffered from insomnia.
2.	I have felt blue.
3.	I have felt everything was an effort.
4.	I have felt low in energy or slowed down.
5.	I have felt lonely.
6.	I have felt hopeless about the future.
7.	I have not got any fun out of life.
8.	I have had feelings of worthlessness.
9.	I have felt all pleasure and joy has gone from life.
10.	I have felt that I cannot shake off the blues even with help from family and friends.

Notes: Questionnaire items come from Salokangas, Poutanen, and Stengård (1995).

Table G3

Rosenberg's Self-Esteem Scale Items used to Measure Self-Esteem

	Questionnaire items
1.	I feel I have a number of good qualities.
2.	Sometimes I think I am no good at all.*
3.	I take a positive attitude toward myself.
4.	I wish I could respect myself more.*
5.	All in all I am satisfied with myself.

Note: Questionnaire items come from Rosenberg (1965).
* Indicates a need to reverse code the item

Table G4

Satisfaction with Life Scale Items used to Measure Life Satisfaction

	Questionnaire items
1.	For the most part my life is near my ideal.
2.	The circumstances in my life are excellent.
3.	I am satisfied with my life.
4.	So far I have reached the important things in my life.
5.	If I could relive my life, I would not change anything much.

Note: Questionnaire items come from Diener, Emmons, Larsen, and Griffin (1985).

Table G5

School Burnout Inventory Items used to Measure School Related Emotional Exhaustion, Cynicism, and Inadequacy

	Questionnaire items	Subscales
1.	I feel I am overwhelmed by my school work.	Emotional Exhaustion
2.	I feel a lack of motivation in my school work and often think of giving up.	Cynicism
3.	I often have feelings of inadequacy at school.	Inadequacy
4.	I often sleep badly because of matters related to school work.	Emotional Exhaustion
5.	I feel I am losing my interest towards school.	Cynicism
6.	I continuously wonder whether my school work has any meaning.	Cynicism
7.	I feel I have less and less to give at school.	Inadequacy
8.	I think about school matters a lot during my free time.	Emotional Exhaustion
9.	I used to have higher expectations of my school work than I do now.	Inadequacy
10.	The pressure of school work has caused problems in my close relationships.	Emotional Exhaustion

Note: Questionnaire items come from Salmela-Aro, Kiuru, Leskinen, and Nurmi (2009) and Salmela-Aro and Näätänen (2005).

Supplementary Material Chapter 7

Appendix H

Creation of the Autonomy Support Index

The data on parenting that is available in the Mind the Gap (MtG) and Finnish

Educational Transition (FinEdu) databases comes from a variety of revised versions of the

Child Rearing Practices Report (CRPR; Aunola & Nurmi, 2004; Roberts, Block, & Block,

1984). Items from the CRPR measure socialisation behaviours of parents. Many studies have

used a variety of factors of the CRPR to measure parenting aspects such as psychological

discipline (Zahn-Waxler, Friedman, Cole, & Mizuta, 1996), expression of affection (Lin &

Fu, 1990), and the use of authoritative parenting (Kochanska, Kuczynski, & Radke-Yarrow,

1989). Although previously used factors of the CRPR do not directly measure autonomy

support, previous research has established that one of the central dimensions of authoritative

parenting is autonomy support (see Gray & Steinberg, 1999; Steinberg, Elmen, & Mounts,

1989); and the CRPR contains multiple questions that target this construct. Consequently, a

combination of CRPR items is able to measure autonomy supportive parenting. Thus with the

help of a leading expert in both the field and measurement of autonomy support, items were

chosen to comprise a parental autonomy support index for each transition via theoretical

examination of the item content and empirical exploration via confirmatory factor analysis

(CFA). A one-factor congeneric measurement model was measured at each time wave, for

every parent gender, to evaluate whether the autonomy support index used for each transition

was unidimensional and truly measured the construct. Fit indices indicated that the models fit

the data well within a good level of fit (for CFI, TLI, and RMSEA; see Table A1). This

suggested that the variables used for the autonomy support index for each transition reflected

the underlying trait of the construct (Holmes-Smith, Coote, & Cunningham, 2004). Different

revisions and versions of the CRPR were used in the MtG data for the middle school

transition, and in the FinEdu data for the high school and post high school transition. Tables A2 to A4 show which items were available – and which items were concluded to represent an autonomy support parenting index – for the middle school transition, high school transition, and post high school transition respectively. Information on the other measures used to in Chapter 7 can be found in the supplementary material of Chapter 6.

Table H1

Fit of Congeneric Measurement Model for the Autonomy Support Index Used at Each Transition for Each Time Wave

	Mother			Father		
	CFI	TLI	RMSEA	CFI	TLI	RMSEA
Middle School Transition						
T1	1.00	1.00	.000	1.00	1.00	.000
High School Transition						
T1	.95	.91	.078	.97	.94	.069
T2	.99	.98	.049	1.00	1.00	.000
Post High School Transition	Combined Parents					
T1	1.00	.97	.053			
T2	1.00	1.00	.000			

Table H2

Child Rearing Practices Report Questionnaire Items Available in MtG to Compose an Autonomy Supportive Parenting Index for the Middle School Transition

	Questionnaire Items
1.	My mother/father thinks it is important that we follow the rules in our family
2.	My mother/father thinks that young people should behave well around their parents
3.	My mother/father usually knows what I'm doing and where I am
4.	**My mother/father encourages me to be more spontaneous***
5.	**My mother/father takes my thoughts into consideration, when planning family matters***
6.	My mother/father reminds me often how much she has done for me
7.	My mother/father thinks I should appreciate how well my things are
8.	My mother/father reminds me often how much she has sacrificed for me
9.	My mother/father shows often, how much she loves me
10.	**My mother/father knows what I am interested in***
11.	My mother/father knows with whom I hang out
12.	My mother/father knows my friends
13.	My mother/father knows how I spend my money
14.	My mother/father knows where I hang around after school
15.	My mother/father knows where I spend my time at evenings
16.	My mother/father knows what I do on my free-time
17.	My mother/father knows what I do in Internet
18.	My mother/father knows how I am doing in school
19.	My mother/father is interested in my schoolwork
20.	My mother/father helps me in my schoolwork

* Indicates item used in the Autonomy Supportive Parenting Index
Notes: Questionnaire items come from Aunola and Nurmi (2004) and Roberts, Block, and Block (1984).

Table H3

Child Rearing Practices Report Questionnaire Items Available in FinEdu to Compose an Autonomy Supportive Parenting Index for the High School Transition

	Questionnaire Items
1.	My mother/father often shows me how much s/he appreciates the fact that I try to do or achieve something
2.	My mother/father thinks thanking me has a greater influence than punishing me
3.	**My mother/father respects my opinions***
4.	My mother/father thinks scolding and reminding me of things is appropriate
5.	When my mother/father gets angry, s/he also shows it
6.	My mother/father thinks it is important that rules are followed in our family
7.	**If I have disagreement with my mother/father, we usually settle things by talking***
8.	My mother/father thinks a young person must behave well towards her or his parents
9.	My mother/father usually knows what I am doing and where I am
10.	**My mother/father encourages me to be spontaneous***
11.	It is important for my mother/father that I obey her/him
12.	I have a good relationship with my mother/father
13.	**My mother/father takes my thoughts into account when planning things for our family***
14.	My mother/father often reminds me of all the things s/he has done for me
15.	If I behave badly or inappropriately, my mother/father clearly shows s/he is disappointed and ashamed
16.	My mother/father thinks I should appreciate how good things are
17.	My mother/father often reminds me how much s/he has sacrificed for me
18.	My mother/father often shows me s/he loves me
19.	**My mother/father knows what things I am interested in***
20.	My mother/father does not let me get angry at her/him
21.	My mother/father knows who I spend my time with

* Indicates item used in the Autonomy Supportive Parenting Index

Notes: Questionnaire items come from Aunola and Nurmi (2004) and Roberts, Block, and Block (1984).

Table H4

Child Rearing Practices Report Questionnaire Items Available in FinEdu to Compose an Autonomy Supportive Parenting Index for the Post High School Transition

Questionnaire Items
1. My relationship with my parents is very close
2. My parents have supported me with my decisions*
3. My parents have told me that they support me with my decisions*
4. My parents are often too busy to get acquainted with my matters*
5. My parents do not have time to think about my matters*

* Indicates item used in the Autonomy Supportive Parenting Index

Notes: Questionnaire items come from Aunola and Nurmi (2004) and Roberts, Block, and Block (1984).

Appendix I

Measurement Invariance Testing Results

Table I1

Measurement Invariance Testing Fit Indices for the Measurement Models of all Transitions

	χ^2	*df*	CFI	TLI	RMSEA
Middle School Transition					
Depressive Symptoms Model					
M1	383.63	159	.99	99	.029
M2	384.35	168	.99	.99	.028
Difference	7.59	9	.01	.00	.001
Life Satisfaction Model					
M1	129.41	29	.98	.96	.046
M2	134.53	33	.98	.97	.043
Difference	4.05	4	.00	.01	.003
Self-esteem Model					
M1	135.85	27	.96	.93	.049
M2	139.77	31	.96	.94	.046
Difference	4.80	4	.00	.01	.003
Emotional Exhaustion Model					
M1	8.00	5	1.00	.99	.019
M2	9.15	7	1.00	1.00	.013
Difference	1.19	2	.00	.01	.006
High School Transition					
Autonomy Support Model					
M1	60.32	58	1.00	1.00	.013
M2^	74.47	70	1.00	1.00	.016
Difference	14.17	12	.00	.00	.003
Depressive Symptoms Model					
M1	252.29	159	.98	.97	.059
M2	247.08	168	.98	.98	.053
Difference	4.47	9	.00	.01	.006
Life Satisfaction Model					
M1	53.16	29	.97	.95	.057
M2	57.09	33	.97	.95	.053
Difference	2.92	4	.00	.00	.004
Self-esteem Model					
M1	63.28	27	.96	.93	.072
M2	67.91	31	.96	.94	.068
Difference	4.38	4	.00	.01	.004
Emotional Exhaustion Model					
M1	0.33	5	1.00	1.00	.000
M2	7.76	7	1.00	.99	.021
Difference	6.76*	2	.00	.01	.021
Post High School Transition					
Autonomy Support Model					
M1	46.33	13	.98	.95	.059
M2	49.50	16	.98	.96	.053
Difference	3.48	3	.00	.01	.006
Depressive Symptoms Model					
M1	350.47	159	.99	.98	.050
M2	335.56	168	.99	.99	.046
Difference	12.60	9	.00	.01	.004

(continued)

	χ^2	*df*	CFI	TLI	RMSEA
Post High School Transition					
Life Satisfaction Model					
M1	94.51	29	.98	.96	.055
M2	97.51	33	.98	.97	.051
Difference	1.95	4	.00	.01	.004
Self-esteem Model					
M1	92.73	27	.97	.96	.057
M2	117.62	31	.97	.95	.061
Difference	24.20***	4	.00	.01	.004
Emotional Exhaustion Model[1]					
M1	3.62	5	1.00	1.00	.000
M2	5.95	7	1.00	1.00	.000
Difference	2.36	2	.00	.00	.000

Note: M1 = no constraints; M2 = constrained factor loadings between time waves; ^ factor loadings also constrained between parent groups. [1]Please note that the RMSEA is likely to be inflated as sampling error is greater with smaller df, and so it is usually advised to not compute RMSEA for models with a low df (Kenny, 2015).

Appendix J

Zero-Order Correlations

Table J1

Pearson's r Zero-Order Correlation of Parental Autonomy Support with Well-Being for all Transitions

	1	2	3	4	5	6	7	8	9	10	11	12
Middle School Transition												
Autonomy Sup Pre - Mother	1.00											
Autonomy Sup Pre - Father	.65***	1.00										
Depressive Symptoms Pre	-.28***	-.27***	1.00									
Depressive Symptoms Post	-.21***	-.20***	.45***	1.00								
Life Satisfaction Pre	.50***	.44***	-.52***	-.33***	1.00							
Life Satisfaction Post	.33***	.33***	-.41***	-.50***	.58***	1.00						
Self-esteem Pre	.34***	.33***	-.56***	-.29***	.55***	.42***	1.00					
Self-esteem Post	.26***	.25***	-.33***	-.53***	.36***	.60***	.51***	1.00				
Emotional Exhaustion Pre	-.15***	-.19***	.47***	.31***	-.28***	-.29***	-.39***	-.23***	1.00			
Emotional Exhaustion Post	-.06	-.06	.28***	.45***	-.13**	-.28***	-.25***	-.36***	.42***	1.00		

(continued)

High School Transition

Autonomy Sup Pre - Mother	1.00											
Autonomy Sup Post - Mother	.64***	1.00										
Autonomy Sup Pre - Father	.67***	.44***	1.00									
Autonomy Sup Post - Father	.42***	.65***	.60***	1.00								
Depressive Symptoms Pre	-.22*	-.17	-.24*	-.22	1.00							
Depressive Symptoms Post	-.20	-.15	-.24*	-.25*	.41***	1.00						
Life Satisfaction Pre	.49	.32***	.41***	.29***	-.55***	-.19	1.00					
Life Satisfaction Post	.28**	.42***	.24*	.42***	-.17	-.38***	.41***	1.00				
Self-esteem Pre	.22*	.07	.26**	.25*	-.55***	-.19	.59***	.37***	1.00			
Self-esteem Post	.26**	.15	.28**	.38***	-.34***	-.51***	.40***	.55***	.66***	1.00		
Emotional Exhaustion Pre	.06	-.05	-.01	-.15	.39***	.24*	-.18	-.14	-.18	-.15	1.00	
Emotional Exhaustion Post	-.07	-.03	-.14	-.15	.30***	.49***	-.14	-.28***	-.18	-.32***	.48***	1.00

Post High School Transition

Autonomy Support Pre	1.00									
Autonomy Support Post	.40***	1.00								
Depressive Symptoms Pre	-.29***	-.20***	1.00							
Depressive Symptoms Post	-.28***	-.31***	.52***	1.00						
Life Satisfaction Pre	.41***	.33***	-.52***	-.37***	1.00					
Life Satisfaction Post	.22***	.37***	-.32***	-.60***	.51***	1.00				
Self-esteem Pre	.31***	.22***	-.58***	-.39***	.60***	.31***	1.00			
Self-esteem Post	.27***	.35***	.42***	-.68***	.47***	.62***	.58***	1.00		
Emotional Exhaustion Pre	-.25***	-.15***	.40***	.29***	-.26***	-.15***	-.33***	.24***	1.00	
Emotional Exhaustion Post	-.22***	-.17***	.31***	.43***	-.19***	-.20***	-.24***	-.31***	.44***	1.00

* p < .05, ** p < .01, *** p < .001

Note: Pre = before transition; Post = after transition

Appendix K

R Squared of Endogenous Variables Cross-Lagged SEM

Table K1

R Squared of Endogenous Variables of Each Cross-Lagged SEM for Mother and Father at all Transitions

	Middle School Transition		High School Transition		Post High School Transition
	Mother	Father	Mother	Father	Parents
Depressive Symptoms Model					
Well-being	.35***	.34***	.29***	.28***	.49***
Autonomy Support	-	-	.56***	.51***	.34***
Life Satisfaction Model					
Well-being	.37***	.37***	.16*	.16*	.27***
Autonomy Support	-	-	.44***	.43***	.18***
Self-esteem Model					
Well-being	.31***	.30***	.46***	.47***	.37***
Autonomy Support	-	-	.46***	.45***	.20***
Emotional Exhaustion Model					
Well-being	.23***	.23***	.51***	.50***	.28***
Autonomy Support	-	-	.47***	.47***	.22***

$* p < .05, ** p < .01, *** p < .00$
Note: reporting R squared (R^2), with standard error in parentheses

References for Supplementary Material

Aunola, K., & Nurmi, J. E. (2004). Maternal Control Moderates the Impact of Psychological

Control on a Child's Mathematical Performance. *Developmental Psychology, 40,* 963-

978. doi: 10.1037/0012-1649.40.6.965

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life

scale. *Journal of Personality Assessment, 49*, 71–75. doi:

10.1207/s15327752jpa4901_13

Gray, M., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a

multidimensional construct. *Journal of Marriage and the Family, 61*, 574-587. doi:

10.2307/353561

Holmes-Smith, P., Coote, L., & Cunningham, E. (2004). *Structural equation modeling: From*

the fundamentals to advanced topics. Melbourne, Australia: Sreams

Kenny, D. A. (2015). *Measuring model fit*. Retrieved from http://davidakenny.net/cm/fit.htm

Kochanska, G., Kuczynski, L., & Radke-Yarrow, M. (1989). Correspondence between

mothers' self-reported and observed child-rearing practices. *Child Development, 60*,

56-63. doi: 10.2307/1131070

Lin, C. C., & Fu, V. R. (1990). A comparison of child-rearing practices among Chinese,

immigrant Chinese, and Caucasian-American parents. *Child Development, 61*, 429-

433. doi: 10.1111/j.1467-8624.1990.tb02789.x

Roberts, G. C., Block, H., & Block, J. (1984). Continuity and Change in Parents' Child-

Rearing Practices. *Child Development, 66,* 586-596. doi: 10.2307/1129970

Rosenberg, M. (1965) *Society and the Adolescent Self-image.* Princeton, NJ: Princeton

University Press.

Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009). School-burnout inventory (SBI): Reliability and validity. *Journal of Psychological Assessment, 25*, 48-57. doi: 10.1027/1015-5759.25.1.48

Salmela-Aro, K. & Näätänen, P. (2005). *Bergen Burnout Indicator 10*. Helsinki, Finland: Edita.

Salokangas, R. K. R., Poutanen, O. & Stengård, E. (1995). Screening for Depression in Primary Care: Development and Validation of the Depression Scale, a Screening Instrument for Depression. *Acta Psychiatrica Scandinavica, 92,* 10-16. doi: 10.1111/j.1600-0447.1995.tb09536.x

Steinberg, L., Elmen, J., & Mounts, N. (1989). Authoritative parenting. psychosocial maturity, and academic success among adolescents. *Child Development, 60*, 1424-1436. doi: 10.1111/j.1467-8624.1989.tb04014.x

Zahn-Waxler, C., Friedman, R. J., Cole, P. M., Mizuta, I., & Hiruma, N. (1996). Japanese and United States preschool children's responses to conflict and distress. *Child Development, 67*, 2462-2477. doi: 0.1111/j.1467-8624.1996.tb01868.x