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Nourishing identity formation during middle adolescence: The role of parenting, coparenting, and parental mental load

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FACULTE DES SCIENCE SOCIALES ET POLITIQUES

INSTITUT DE PSYCHOLOGIE

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THESE DE DOCTORAT

présentée à la

Faculté des Sciences Sociales et Politiques

De l'Université de Lausanne

pour l'obtention du grade de

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Jury

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Le Décanat de la Faculté des sciences sociales et politiques de l'Université de Lausanne, au nom du Conseil et sur proposition d'un jury formé des professeurs

- Grégoire ZIMMERMANN, directeur de thèse, Professeur à l'Université de Lausanne
- Joëlle DARWICHE, Professeure à l'Université de Lausanne
- Seth SCHWARTZ, Professeur à la University of Texas at Austin
- Maarten VANSTEENKISTE, Professeur à l'Universiteit Gent
- Stijn VAN PETEGEM, Research Associate à l'Université Libre de Bruxelles

autorise, sans se prononcer sur les opinions de la candidate, l'impression de la thèse de Madame Gillian ALBERT SZNITMAN, intitulée :

« Nourishing identity formation during middle adolescence: The role of parenting, coparenting, and parental mental load. »

Nicky LE FEUVRE
Doyenne

Lausanne, le 16 novembre 2021.

Abstract

The major developmental task of adolescence is the construction of a coherent identity. From the genesis of Erik Erikson's writing on adolescent identity development, an emphasis was placed on the importance of one's social environment for the development and definition of who one is. However, much of the work over the past decades has focused on identity as a purely psychological process. Thus, the purpose of the present dissertation is to take an in-depth look at contextual factors within the family that may relate to how an adolescent constructs their identity. Taking inspiration from the fields of self-determination theory, family systems theory, and developmental psychopathology, we propose four research aims. First, using a person-centered approach we empirically derive identity typologies based on an integrated six-process model of identity and investigate associations with perceived autonomy supportive and psychologically controlling parenting as well as evolutions over time (aim 1). Second, using a variable-centered approach, we examine the specific relationship between identity processes and parenting dimensions, in order to better grasp which parenting dimensions may be promoting or inhibiting identity processes (aim 2). In our third and fourth aims, we expand our scope of the family giving attention two other contextual factors that may put pressure on parents ultimately impacting their ability to provide autonomy supportive parenting, including coparenting (aim 3) and parental mental load (aim 4). Using data collected as part of a longitudinal project funded by the Swiss National Science Foundation, several analytic approaches were used to address the four research aims including cluster analysis, longitudinal growth class analysis, and structural equation modeling. Globally, higher levels of perceived autonomy supportive parenting and lower levels of perceived psychological control were associated with more mature identity development, whereas lower levels of perceived autonomy supportive parenting and higher levels of psychologically controlling parenting were associated with maladaptive identity formation. Furthermore, higher levels of pressure on parents in the form of coparental triangulation and parental mental load were associated with more maladaptive parenting and ultimately greater difficulties in adolescent identity formation. Results are discussed in regard to practical implications and interventions at numerous levels.

Résumé

Une des tâches principales de l'adolescence est la construction d'une identité cohérente. Dès ses premiers écrits sur le développement de l'identité, Erik Erikson a mis l'accent sur le rôle primordial de l'environnement pour la définition de soi. Cependant, la plupart des travaux des dernières décennies se sont concentrés sur l'identité en tant que processus psychologique. Ainsi, l'objectif de cette thèse est d'examiner de façon approfondie les facteurs familiaux qui sont liés à la façon dont l'adolescent construit son identité. Adoptant les perspectives de la théorie de l'autodétermination, la théorie systémique et la psychopathologie développementale, nous proposons quatre objectifs de recherche. Premièrement, en utilisant une approche centrée sur la personne, nous avons créé empiriquement des typologies identitaires et nous avons examiné leur lien avec le soutien à l'autonomie et le contrôle psychologique parentale, y-compris dans une perspective longitudinale (objectif 1). Deuxièmement, en utilisant une approche centrée sur les variables, nous avons examiné la relation entre chaque processus identitaire et les dimensions parentales, afin de mieux comprendre quelles dimensions parentales peuvent favoriser ou inhiber les processus identitaires (objectif 2). Dans nos troisième et quatrième objectifs, nous avons investigué deux facteurs contextuels susceptibles d'exercer une pression sur les parents ayant un impact sur leur parentalité, notamment la coparentalité (objectif 3) et la charge mentale parentale (objectif 4). Sur la base de données récoltée dans le cadre d'un projet du Fonds National Suisse de la Recherche Scientifique, plusieurs approches analytiques ont été utilisées, notamment l'analyse en cluster, l'analyse longitudinale des classes de croissance et les équations structurelles. Globalement, des niveaux plus élevés perçus de soutien de l'autonomie et des niveaux plus faibles perçus de contrôle psychologique étaient associés à un développement identitaire plus mature, tandis que des niveaux plus faibles perçus de soutien de l'autonomie et des niveaux plus élevés perçus de contrôle psychologique étaient associés à une formation identitaire moins ajustée. De plus, des niveaux de pression plus élevés sur les parents, sous les formes de la triangulation coparentale et de la charge mentale parentale, étaient associés à une parentalité moins adaptée et à de plus grandes difficultés dans la formation identitaire. Les résultats sont discutés en termes d'implications pratiques et des interventions.

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This work would not have been possible without the encouragement and support of numerous people and organizations to whom I am eternally grateful.

I would first like to thank the Swiss National Science Foundation as well as the University of Lausanne for providing the financial support making this dissertation possible. Similarly, I would like to thank the participants who took the time to complete the many questionnaires on numerous occasions as well as the educational institutions across the Canton of Vaud, including the teachers and principals for allowing our research team into your school establishments taking up time during your busy days.

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I would like to end by thanking my incredible family for all of their support during these past years. This work would not have been possible without your love and encouragement and I feel incredibly lucky to have been gifted such an amazing support system.

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Preamble

The research commission was informed that this dissertation would take the form of scientific publications, in line with the directives adopted in 2012 by the Faculty of Social and Political Sciences of the University of Lausanne. This dissertation is composed of four articles which I wrote as first author in collaboration with my co-authors, during my time as a doctoral student. Below are the complete references for the four articles:

Paper 1

Albert Sznitman, G., Zimmermann, G., & Van Petegem, S. (2019). Further insight into adolescent personal identity statuses: Differences based on self-esteem, family climate, and family communication. *Journal of Adolescence*, *71*, 99–109. https://doi.org/S014019711930003X

Paper 2

Albert Sznitman, G., Van Petegem, S., Antonietti, J.-P., Baudat, S., Schwartz, S. J., & Zimmermann, G. *(in revision)*. Trajectories of perceived parenting across an educational transition: Assocaitons with psychosocial adjusmtent and idenitty development among Swiss adolescents. *Developmental Psychology*.

Paper 3

Albert Sznitman, G., Van Petegem, S., & Zimmermann, G. (2019). Exposing the role of coparenting and parenting for adolescent personal identity processes. *Journal of Social and Personal Relationships*, *36*, 1233–1255. https://doi.org/10.1177/0265407518757707

Paper 4

Albert Sznitman, G., Van Petegem, S., & Zimmermann, G. (*in prep*). Intergenerational similarity in maladjustment via parenting and identity formation in a community sample of mothers and their adolescent children.

Chapter 1

General Introduction

It has been well established that the construction of a coherent sense of self is one of the key developmental tasks of adolescence. In fact, one's identity has been of great interest to scholars for decades, with theorists such as William James (1892), George Herbert Mead (1934), and Sigmund Freud (1930/1965) postulating as to the meaning and significance of the self. Inspired by such theorists and perhaps the most well-known for the study of psychosocial identity formation is Erik Erikson. In Erikson's classic *Identity: Youth and Crisis* (1968) he describes ego identity as "the perception of the selfsameness and continuity of one's existence in time and space" (p.50). Thus, identity is understood to be an amalgamation of preferences, values, and beliefs encompassing who one is. One's identity is one's guiding force in what to do, how to behave, and what direction to take in life (Oyserman et al., 2012).

Erikson (1968) goes on to state that not only is identity the perception of self-sameness over time, but that identity comprises "the perception of the fact that others recognize one's sameness and continuity" (p.50). Therefore, one's identity is not only dependent on the individual but there is an important social aspect upon which identity is dependent. In fact, elaborating on this social component of identity, Rappaport (1958) describes this social aspect as "not merely a prohibitor or provider; it is the necessary matrix of the development of all behavior". Thus, one's social environment is of utmost importance in helping to shape one's identity.

While these concepts date back to the mid-twentieth century, they remain incredibly relevant in current times, often being portrayed in popular culture. In fact, an

eloquent example of how a young person's environment may influence their identity formation is nicely illustrated in Fernando Grostein Andrade's (2019) movie *Abe* in which a 12-year-old boy, Abe, with an atheist Muslim-born father and an atheist Jewish-born mother is being pressured by both sets of grandparents to choose one religion over another, when what he really wants is to figure out his own [religious] identity:

Jewish Grandfather:	You are twelve. Next year is a big one. If you do your bar mitzvah next year, you will be a man. One hundred percent.
Mother:	All right, Aba [Dad], sit down, all right.
Jewish Grandfather:	Well, I don't mean to interfere, but it's the time.
Father:	Yeah, no, thank you so much for not interfering. I really appreciate that. [sarcastically]
Jewish Grandfather:	Technically, you are a Jew from your mother.
Muslim Grandmother:	Technically, he is a Muslim because of his father.
Father:	I'm sorry, is Atheism matrilineal or patrilineal?
Mother:	I don't know. [sarcastically]
Father:	Technically, I forgot. [sarcastically]
Mother:	Yeah, so why don't we take this off the table for now? Okay? We're done with this conversation and this topic, okay?
Jewish Grandfather:	What the mother wants is important.
Abe:	I want to.
Father:	Want to what?
Mother:	What?
Abe:	I want to do the bar mitzvah.
Father:	Abe, Abe, Abe, hold on here.
Abe:	And the Muslim band.
Father:	Just relax for one second.
Abe:	And everyone I know is doing their bar mitzvahs. And I'd like go to mosque and stuff.
Father:	Okay, that's hell to the no.
Abe:	**I can do both things.**
Muslim Grandmother:	Habibi [my love], you can try both, but you cannot be both.
Jewish Grandfather:	You have to choose.
Father:	**I'm so sorry, guys. He doesn't have to choose... because we chose for him, and we chose nothing. Yeah, we chose nothing.**
Muslim Grandmother:	Really?
Father:	Yeah, really.
Mother:	Let's chill out. It's time for cake!

This scene exemplifies how one's environment, and specifically how one's family can play a major role in one's identity development. How Abe's parents and grandparents interact with him and the environment they provide him with will set the tone for Abe's identity development and may influence the way he takes on this developmental task. Furthermore, Abe's parents must also manage the stress induced by the pressures of their own parents in regard to Abe's identity decisions. Depending on these external pressures, Abe's parents may alter their support or lack thereof for Abe's identity decisions. Lastly and possibly most importantly, this scene highlights the fact that we do not form our identities in isolation, but rather, our identity is constructed in complex interaction with our social surroundings. The present dissertation will focus on such issues. More specifically, we sought to examine the relationship between adolescents' perceptions of autonomy supportive and psychologically controlling parenting and adolescent identity formation. Furthermore, we sought to take our investigation one step further by investigating how other contextual family dynamics may relate to identity formation, including how the dynamic of coparenting as well as parental mental load may impact a parent's ability to provide the optimal environment for their adolescent's identity formation.

We begin this introductory chapter with a brief overview of the historical and theoretical context of identity development followed by a description of contemporary operationalizations of identity. Then, we discuss parenting from a self-determination theory perspective as well as reviewing current findings on the association between identity and parenting. We end the introductory chapter by outlining the rationale for the present dissertation as well as the four research aims that will be addressed. Lastly, we

present an overview of the dissertation study and the four empirical papers making up the body of the dissertation.

1.1 The Founding Fathers of Identity: Erik Erikson and James Marcia

Erikson (1968) first coined the term identity crisis when working with war-trauma victims during the Second World War. He observed that veterans who were suffering from post-traumatic stress disorder seemed to have lost a sense of who they were, "most of our patients…had through the exigencies of war lost a sense of personal sameness and historical continuity" (Erikson, 1968, p. 17). He later drew a parallel between this sense of loss of continuity with "young people whose sense of confusion is due, rather, to a war within themselves" (Erikson, 1968, p. 17). In his developmental psychosocial framework (Erikson, 1968), Erikson describes eight stages of development or "psychosocial crises" that one encounters from birth to old age, with the critical task of adolescence being identity crisis. During this time adolescents, confronted by new cognitive capacities, pubertal changes, and societal pressure, are pushed toward the transition into adult life, including defining who they are (Erikson, 1968). Adolescents' childhood identifications with primary caregivers are resynthesized into new configurations, thereby, in ideal circumstances, differentiating their own self-determined set of values and goals (Erikson, 1968).

This identity crisis is a normative one and can be understood more so as a crucial turning point, not as an "impending catastrophe" (Erikson, 1968, p. 16). All adolescents will be faced with an identity crisis, however, the resolution will vary (Erikson, 1968). More specifically, Erikson (1968) described identity crisis as a bipolar continuum between identity synthesis and identity confusion (or diffusion, in Erikson's earlier writings). Identity synthesis is achieved following the exploration of available

opportunities and the making of certain commitments (Erikson, 1950). This synthesized identity can be experienced as a type of sameness and continuity, a sense of being home in one's body (Erikson, 1950). A synthesized sense of identity provides one with a sense of " present with an anticipated future" (Erikson, 1968, p.30). On the other hand, identity confusion, or a lack of identity, describes individuals who experience sustained incoherence and an inability to commit (Erikson, 1968). Identity confused individuals struggle to find a place in the world, with identity confusion ranging from mild confusion on one end to "aggravated" confusion on the other (Erikson, 1968, p.212). Importantly, much as identity is not constructed solely during the adolescent identity crisis, but rather is built upon the resolution of Erikson's preceding psychosocial stages, identity is also never final, but rather continues to develop throughout the lifespan (Erikson, 1968; Kroger, 2004b).

While Erikson laid the foundation for the theoretical concept of identity development, his work has often been critiqued for a lack of precision, including by Erikson himself (Côté & Levine, 1987; Erikson, 1950; Kroger, 2004b). In an attempt to validate Erikson's identity construct, James Marcia proposed an empirical status model of personal identity (Marcia, 1964, 1966). Through his clinical work Marcia first recognized that other statuses besides the original identity versus identity confusion were necessary to classify adolescents (Marcia, 1964, 1966). More specifically, in reading Erikson's work, Marcia identified two criteria for determining the presence of identity formation: exploration (originally crisis) and commitment (Marcia, 1966). Exploration refers to a period of consideration, sorting through, and trying out of various roles and life plans (Marcia, 1966). When an adolescent is exploring they are actively involved in the selection of meaningful alternatives (Kroger & Marcia, 2011). Commitment refers to the degree of

personal investment in a set of goals, values, and beliefs (Marcia, 1966). These commitments provide meaning, purpose, and direction to life (Kroger & Marcia, 2011).

In order to ascertain the presence or absence of identity crisis and identity commitment, Marcia (1964) proposed a semi-structured interview, the identity status interview (ISI) and accompanying scoring manual. The ISI is an in-depth investigation as to how individuals have come to current identity resolutions or lack thereof, how these commitments have changed since childhood, and what their influences had been (Kroger & Marcia, 2011). While the interview did focus on specific life domains, including occupation, religion, and politics, Marcia himself has said that the actual content was not what was important, but that the focus was rather on the developmental process: how choices were made, how in depth the exploration was, how strong commitments were, and under what circumstance commitments would be changed (Kroger & Marcia, 2011).

The ISI provided a classification of individuals based on the balance between exploration and commitment (Marcia, 1964). This classification is known as identity statuses, of which Marcia derived four (Marcia, 1966). Two of the identity statuses are high in commitment, while two lack commitments (Figure 1.1; Marcia, 1966). The first status high in commitment is characterized by individuals who arrived at these commitments through a period of exploration. This group is known as identity achievement. These individuals are considered to have done the most identity work; they are seen as having constructed their identity (Kroger & Marcia, 2011; Schwartz, 2001). The second group also high on commitment, foreclosure, have done very little to no exploration, but have rather taken on the commitments of significant others (Marcia, 1964). These individuals seem to have been handed down a specific identity rather than deriving their own through exploration (Kroger & Marcia, 2011) The other two statuses

are characterized by low levels of commitments. Moratoriums are engaged in active identity exploration without having yet made commitments, whereas identity diffusion lack both commitments and meaningful exploration (Marcia, 1964). Whereas moratoriums are on the road to defining their identity and appear to still be torn between alternatives, diffusions are relatively directionless and unconcerned about their lack of engagement (Kroger & Marcia, 2011). Thus, Marcia's identity achievement and identity diffusion statuses line up with Erikson's polar outcomes of identity work, identity synthesis vs identity diffusion, while suggesting the addition of foreclosure and moratorium[1] statuses (Kunnen & Metz, 2015; Marcia, 1966).

Figure 1.1 Marcia's identity status model (inspired by Marcia, 1980)

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[1] The concept of adolescence as a period of psychosocial moratorium was present in Erikson's original works (Erikson, 1968), but Marcia was the first to empirically identify the moratorium status (Marcia, 1964).

Further validating the distinctness of Marcia's four identity statuses, each status has demonstrated unique profiles of personality characteristics and psychosocial functioning accrued through Marcia's interviews as well as through empirical investigations (see Kroger, 2004a; Kroger & Marcia, 2011). Identity achieved adolescents are characterized by flexibility, perseverance, and emotional stability (Kroger & Marcia, 2011). While identity achievers remain open to experience and can understand differing points of view, they are not easily influenced by external sources given their internal feeling of self-sameness (Kroger & Marcia, 2011). Achieved adolescents demonstrate high levels of self-esteem and achievement motivation (Orlofsky, 1978; Ryeng et al., 2013b), high levels of moral reasoning (Jespersen et al., 2013; Skoe & Marcia, 1991), use planned decision-making strategies (Blustein & Phillips, 1990), and demonstrate secure attachment (Årseth et al., 2009). These adolescents also demonstrate high levels of satisfaction with life and low levels of anxiety and depression (Lillevoll et al., 2013; Marcia, 1980; Meeus et al., 1999). Parents of identity achieved adolescents appear to be encouraging of adolescent individuation and independence (Grotevant & Cooper, 1985; Willemsen & Waterman, 1991).

Adolescents in the foreclosure identity status may at first glance appear similar to identity achievers, coming off as strong and self-directed (Kroger, 2004a; Kroger & Marcia, 2011). However, foreclosed adolescents are rigid and inflexible leading to an underlying fragility especially when pushed to consider other alternatives (Kroger & Marcia, 2011). In certain contexts, where communal values are favored, the foreclosed status may be adaptive (Marcia, 1993). Foreclosed adolescents are distinguished by their high levels of conformity and authoritarianism (Marcia, 1980; Ryeng et al., 2013a), low

openness to new experiences (Clancy & Dollinger, 1993), and pre-conventional or conventional moral reasoning (Jespersen et al., 2013; Skoe & Marcia, 1991). Equal to their peers in identity achievement, foreclosed youth demonstrate low levels of anxiety and depression as well as high satisfaction with life (Lillevoll et al., 2013; Meeus et al., 1999) – when one leaves little place for the questioning of life commitments, there is no place for anxiety (Kroger, 2004a). Parents of foreclosed adolescents appear to encourage conformity and adherence to family values (Grotevant & Cooper, 1985; Willemsen & Waterman, 1991).

The mortarium identity status is characteristics of adolescents who are in a current state of figuring out who they are – it is the status exemplifying the identity crisis (Crocetti & Meeus, 2015; Kroger & Marcia, 2011). Moratoriums are in a current state of disengaging from parental introjects (Kroger, 2004a). While on the one hand certain moratorium adolescents may be lively and engaging, others may appear overwhelmed and anxious (Kroger, 2004a). Similar to identity achievers, moratorium adolescents have a stable sense of self-esteem (Kroger, 2004a; Ryeng et al., 2013b), an openness to new experiences (Clancy & Dollinger, 1993), and higher levels of moral reasoning (Jespersen et al., 2013; Skoe & Marcia, 1991). However, moratoriums are distinguishable from identity achievers and foreclosures especially by their higher levels of anxiety and depression, often resulting from their ongoing search for satisfying commitments (Crocetti & Meeus, 2015; Lillevoll et al., 2013; Meeus et al., 1999). Similar to parents of identity achievers, parents of moratorium adolescents encourage independence (Grotevant & Cooper, 1985; Willemsen & Waterman, 1991).

Adolescents in identity diffusion are a more homogenous group than moratoriums, however there is still a certain heterogeneity (Kroger, 2004a). In general, they all lack an

exploratory period and have an inability to make commitments (Kroger & Marcia, 2011). While some diffused adolescents may appear to be highly flexible and infinitely adaptable drifting in a carefree way through life, others may appear lost, isolated, and consumed by feeling of emptiness and meaninglessness, evidencing severe psychopathology (Kroger, 2004a; Kroger & Marcia, 2011; Schwartz, Beyers, et al., 2011). Diffused adolescents evidence low self-esteem (Marcia, 1966), low emotional stability and conscientiousness (Clancy & Dollinger, 1993), low levels of moral reasoning (Jespersen et al., 2013; Skoe & Marcia, 1991), and inadequate approaches to decision making (Blustein & Phillips, 1990). Generally, diffused adolescents demonstrate moderate levels of adjustment compared to adolescents in the other identity statuses (Lillevoll et al., 2013; Meeus et al., 1999). Diffused adolescents report parents to have been distant (Josselson, 1987).

A number of critics have been made concerning Marcia's identity status paradigm, the largest of which concerns its developmental nature (see Côté & Levine, 1988; Meeus et al., 1999). Indeed, Marcia's four identity statuses were originally conceptualized to be on a continuum with achievement being the most mature, followed by moratorium, then foreclosure, and diffusion being the least mature (Marcia, 1966). While on the one hand Marcia states that the identity statuses are indeed end points of the identity crisis, he also underlines the fact that changes in identity status are possible (Marcia, 1964; Meeus et al., 1999). According to Marcia (1964)[2], however, these status changes are unidirectional toward the optimal end-point of identity achievement. Follow up research conducted by Waterman (1982) did not fully support this belief in unidirectional development of

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[2] Marcia (1980) later amended this description of identity status change, specifying that these identity statuses should not be understood as endpoints but rather as identity styles, describing different ways with which people may take on the identity formation process. With naturally occurring life cycle events, identity configurations may be disequilibrated leading to identity re-formation process (Stephen et al., 1992).

identity. Indeed, Waterman (1982) suggested that identity may develop in three general ways, with identity progression (from diffusion/foreclosure to moratorium to achievement) being most common, but with identity regression (from any identity status into diffusion) and identity stability also being possible. Furthermore, while Waterman (1988) supported the belief that development occurs from diffusion to achievement, he also specified that the identity statuses should not be understood as a developmental continuum, given that foreclosure and moratorium cannot be theoretically placed next to each other on a developmental continuum (Meeus et al., 1999). Thus, Waterman suggests that the identity statuses be seen rather as four distinct typologies, depicting qualitatively different approaches to identity formation (Waterman, 1988). Therefore, while Marcia's identity status model provides an interpretative framework for identity development, it has been critiqued for not being truly developmental in nature. A developmental hypothesis should be able to describe a process over time, which, given the lack of specificity in particular concerning "how" change is occurring, is not the case with the identity status model (Meeus et al., 1999).

Marcia's identity status model has similarly been critiqued for its overemphasis on the two classical dimensions of commitment and exploration (e.g., Van Hoof, 1999). That is, an adolescents' assignment to one of the four identity statuses is solely determined by the level of expression of exploration and commitment. As a result, adolescents assigned to the same status may demonstrate a great diversity in the quality and quantity of these dimensions (Luyckx, 2006). Thus, while adolescents assigned to different statuses will demonstrate greater disparity than those assigned to the same status, adolescents within the same identity status may demonstrate significant differences. For example, two adolescents may both be assigned to the achievement status, one with high

commitments following exploration the other with moderate commitments following exploration (Luyckx, 2006). The significance of the difference in strength of these commitments are overlooked in the identity status paradigm, even though the strength of commitments has important consequences for everyday functioning (Schwartz, Côté, et al., 2005). Therefore, new models have been developed in order to provide a more finite understanding of the process of identity formation, ultimately with the hope of addressing such developmental questions (Kunnen & Metz, 2015).

1.2 Neo-Eriksonian Process Based Identity Models

As a way to address developmental questions and the "how" of adolescent identity development, more recent models of identity have been elaborated based on Erikson's and Marcia's ideas, focusing on the underlying processes of identity formation. More specifically, researchers delved deeper into the meaning and function of commitment and exploration (Bosma, 1985; Grotevant, 1987; Meeus, 1996). Bosma (1985), for example, suggested that commitment could be differentiated into the extent to which adolescents make commitments as described by Marcia as well as the extent to which one identifies with commitments. In regard to exploration, Meeus (1996) suggested that over and above a general exploration as conceptualized by Marcia, adolescents also engage in an in-depth exploration which includes active reflection and gathering of information concerning current commitments. Furthermore, Grotevant (1987) described the ongoing process of goodness of fit evaluations between current commitments and one's context, and the continued exploration process which may occur should commitments no longer be seen as congruent. One process oriented model of identity inspired by this further differentiation of identity processes is the Dual-Cycle Model of Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008).

1.2.1 The Dual-Cycle Identity Model

The dual-cycle model of Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008) proposes a model of identity formation based on two cycles, commitment formation and commitment evaluation, composed of five identity processes, including a further differentiation of both exploration and commitment (Figure 1.2).

Figure 1.2 Luyckx and colleagues Dual Cycle Identity Model (Luyckx et al., 2011)

The commitment formation cycle captures an adolescents initial selection of identity alternatives and is composed of *exploration in breadth* and *commitment making*. This first cycle is reflective of exploration and commitment as described by Marcia (1966, 1993). That is, exploration in breadth refers to a gathering of general information concerning identity alternatives and commitment making to the enacting of choices in identity relevant domains (Luyckx, Goossens, Soenens, et al., 2006).

The commitment evaluation cycle captures the continuous appraisal and maintenance of identity commitments and is composed of *exploration in depth* and *identification with commitment* (Luyckx et al., 2011; Luyckx, Goossens, Soenens, et al., 2006). Exploration in depth refers to the re-evaluating of current commitments and the assessing of how current commitments match with one's standards (Luyckx, Goossens, Soenens, et al., 2006). It may include the gathering of further information and the discussing of one's current commitments with others (Luyckx et al., 2011). Identification with commitment taps into the quality of one's commitment (Waterman, 2015). More precisely, identification with commitment refers to the certainty and security one feels in regard to one's current commitments and the extent to which one has integrated such commitments (Luyckx et al., 2011; Waterman, 2015). Furthermore, in order to tap into a more unhealthy exploration which can sometimes plague adolescents, a third type of exploration was integrated into the model in the form of *ruminative exploration* (Luyckx, Schwartz, Berzonsky, et al., 2008). This ruminative exploration is indicative of adolescents who are unable to make commitments and find themselves in a continuous spiral of mulling over of different options with the inability to settle on one (Luyckx, Schwartz, Berzonsky, et al., 2008).

The dynamic nature of identity formation is captured by the dual-cycle model via the interplay between the commitment formation cycle and the commitment evaluation cycle along with the identity processes that compose these cycles. For example, when an adolescent has made their initial commitments (commitment formation) and embarks on exploring their commitments in depth (commitment evaluation), they may draw one of two conclusions: they may either gain confidence in their current commitments as new information is gained in line with the identity commitments made or alternatively they

may realize that their current commitment is flawed and should be abandoned (Waterman, 2015). In the case where their current commitment is abandoned, an adolescent will return to a general level of exploration of other identity alternatives (commitment formation), and thus this process will continue (Luyckx et al., 2011).

Variable-centered studies have investigated how each of the identity dimensions relate to adolescent functioning. In general, commitment making, identification with commitment, and exploration in depth have been consistently associated with positive adolescent functioning, including self-esteem and academic adjustment, and negatively associated with substance use and depressive symptoms (Luyckx et al., 2011; Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, et al., 2010). While, exploration in breadth is generally thought to be an adaptive process, facilitating identity formation, its association with adolescent functioning has been inconsistent, with some studies finding exploration in breadth to be associated with greater openness and general curiosity (Berman et al., 2001; Luyckx, Soenens, et al., 2006), while others have found exploration in breadth to be associated with heightened anxiety and depression (Schwartz, Zamboanga, et al., 2009). One potential explanation for these findings has been that exploration in breadth may be adaptive up to the point where an adolescent gets stuck (Luyckx et al., 2011). That is, general exploration may become distressing when an adolescent is incapable of making a commitment and begins to ruminate. Indeed, with the more recent inclusion of the specific dimension of ruminative exploration, exploration in breadth has been more consistently associated with adaptive adolescent functioning, whereas ruminative exploration was consistently associated with maladaptive outcomes (Luyckx, Schwartz, Berzonsky, et al., 2008).

The five dimensions of the dual-cycle model have also been used in person-centered studies to empirically derive identity typologies, identifying certain of Marcia's original identity statuses (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008). In total, six identity statuses were empirical derived, four of which reflect those in Marcia's original classification model: achievement, foreclosure, (ruminative) moratorium, and (troubled) diffusion. However, of particular interest, this work has led to a distinction between two forms of diffusion. The first being carefree diffusion characteristic of adolescents with an untroubled apathetic approach toward identity, and the second type being a troubled diffusion status, characterized by low levels on all identity dimensions except for high levels of ruminative exploration. This is a troubled form of diffusion in which individuals fight to get a sense of personal identity, through the utilization of non-effective ruminative type of exploration (Luyckx et al., 2011).

More recently, a sixth dimension of *reconsideration of commitment* has been included in certain investigations employing the dual-cycle model (e.g., Albert Sznitman, Zimmermann, et al., 2019a; Skhirtladze et al., 2016). This sixth dimension was originally described in the three-factor identity model of Meeus, Crocetti, and colleagues (Crocetti, Rubini, & Meeus, 2008; Meeus et al., 2010). Reconsideration of commitment refers to the weighing out and abandoning of current commitments in favor of other identity alternatives (Crocetti, Rubini, & Meeus, 2008; Waterman, 2015). Thus, reconsideration of commitment truly gets at the dynamic and iterative process of forming identity commitments, incorporating new information into one's awareness, weighing out this new information with past commitments, and adapting current commitments (Crocetti & Meeus, 2015). Indeed, reconsideration of commitment has consistently been associated

with less optimal adolescent development, including negative associations with agreeableness and openness to experience and positive associations with depression and anxiety (Crocetti et al., 2010; Crocetti, Rubini, & Meeus, 2008). The inclusion of this sixth dimension with the original five dimensions of the dual-cycle model, better allows for the understanding of both adaptive and maladaptive identity processes helping to provide greater insight into the underlying mechanisms of adolescent identity formation. In this perspective, the dual-cycle model could help remedy certain of the critics of Marcia's identity status model. This being said, it remains important to investigate the influence of one's social environment on the expression of such identity processes and more specifically in what ways parents can encourage healthy identity exploration and commitment.

1.3 The Role of Parents for Adolescent Identity Formation

Parents clearly play a pivotal role in the construction and definition of their children's identities. Indeed, if we return to the case of Abe from earlier in this chapter, Abe's parents clearly voice their opinion as to the commitment that Abe should make (i.e., "choose nothing"), while discouraging his exploration of other alternatives. Abe, however, has other ideas as to how he would like to define himself. How will Abe's perception of his parents control influence his identity work? Will he simply commit to what his parent's say or will he continue exploring different alternatives or will he find it impossible to commit to anything? Such questions are at the heart of the following section.

It is impossible to deny that identity construction is highly dependent on the resources and challenges offered by one's social context. In fact, from its very conception,

Erikson (1950) emphasized the importance of context for an individual's development. Indeed, his psychosocial theory of development is based on just that, the interplay between society and psychology- between a person and their context (Erikson, 1968). In this light, Erikson spoke of the important role parents play in helping to shape their children's identity, "parents must not only have certain ways of guiding by prohibition and permission, they must also be able to represent to the child a deep, almost somatic conviction that there is meaning in what they are doing" (Erikson, 1968, p. 103). Thus, Erikson saw this identity work as fully embedded in a relational context, evolving over time. However, with the popularity of Marcia's (1966) identity status model and the field's focus on identity construction as primarily an internal psychological process defined by a single identity status, the role of context has fallen somewhat to the wayside (Côté & Levine, 1988). The present dissertation is inspired by a recent resurgence of interest in the role of family context (e.g., Beyers & Goossens, 2008; Crocetti et al., 2017; Schwartz, Mason, Pantin, & Szapocznik, 2009) and more specifically how parents are intertwined in an adolescent's identity work.

1.3.1 Parenting During Adolescence

Adolescence has been widely represented in popular media as a time of turbulence. While this representation has been largely supported as being a misrepresentation of the vast majority of adolescents (e.g., Steinberg, 2001), it remains a time of change for parents and adolescents alike. This change is largely a result of adolescents' increasing need for independence in their journey to figuring out who they are as individuals separate from their parents (Smetana & Rote, 2019). As a result, a renegotiation of parent-adolescent relationships ensues going from asymmetric towards

a more egalitarian like relationship (Grotevant, 1983; Meeus, 2016). When parents react with reluctance and unwillingness to change in regard to this relational dynamic, conflict can result (Laursen & Collins, 2009). However, while adolescence does entail a process of independence taking and autonomous functioning, it appears important that a balance remains between connectedness with parents and adolescent individuality (Grotevant & Cooper, 1985; Smetana & Rote, 2019). In this light, self-determination theory (SDT) suggests that parents can best nurture their adolescent's growth via supporting their adolescents' autonomous functioning (Ryan & Deci, 2000a). We will now turn our focus to self-determination theory as applied to the parent-adolescent relationship and identity formation.

1.3.2 Parenting from the Perspective of Self-Determination Theory

At its heart, self-determination theory (SDT) is a theory on human motivation, seeking to understand what promotes intrinsic motivation and the internalization of values and regulations (Deci & Ryan, 2008). Whereas individuals will naturally seek to engage in tasks which they find inherently interesting (i.e., intrinsic motivation), they will also need to integrate into their sense of self tasks that are less interesting but necessary for proper social functioning (i.e., internalisation). SDT maintains that humans have a natural tendency to move towards growth, with one's growth oriented tendency being the self (Ryan & Deci, 2000a). Thus, it is the self which guides one towards more integrated and optimal functioning (Soenens & Vansteenkiste, 2011). The energy required for integrating values and regulations comes from the fulfillment of certain basic psychological needs including the need for autonomy (Deci & Ryan, 2000, 2008). In this perspective, autonomy refers to experiencing a sense of volition and freedom in one's

actions (Ryan & Deci, 2000a). Thus, when one feels free to explore as they wish, they will be in touch with their personal interests and will fully stand behind their actions (Soenens et al., 2007). This need for autonomy is considered innate and universal with its fulfillment being associated with optimal human functioning and a well-integrated identity (Deci & Ryan, 2000, 2008; Vansteenkiste & Ryan, 2013). However, when this need for autonomy is thwarted, growth is obstructed, identity synthesis is hampered, and psychopathology may result (Deci & Ryan, 2000, 2008; Vansteenkiste & Ryan, 2013).

In regard to an adolescent's need for autonomy, SDT highlights the important role of the social context. In this regard, parents can either support their adolescent's need for autonomy or they can thwart their adolescent's need for autonomy through the use of psychological control (Soenens et al., 2007; Vansteenkiste & Ryan, 2013). Support of autonomy refers to the degree to which parents encourage their adolescent to act upon personally endorsed values and interests (Ryan et al., 2006). These parents are typically empathetic to their child's needs, provide choice whenever possible, and help their children to explore and act upon their child's true personal values (Grolnick, 2003). It is important to differentiate this from autonomy support as defined by the encouragement of independence, which has been the definition of autonomy in mainstream adolescent psychology, largely stemming from psychoanalytic literature (Blos, 1979; Soenens et al., 2007). Indeed, autonomy as defined by volitional functioning has been associated more so with adolescent well-being, whereas autonomy as defined by independence has often been associated with adolescent problem behavior (Van Petegem et al., 2013). Similarly, autonomy support as defined by SDT does not equate to permissiveness or in other words, lack of structure. In fact, autonomy support refers to the way in which parents provide

structure to children (Joussemet et al., 2008). Thus, the opposite of autonomy support is not dependence, but rather psychological control (Deci & Ryan, 2000).

The frustration of an adolescents' need for autonomy through the use of psychological control involves the use of pressuring and coercive strategies to make children act or think in parent-imposed ways (Barber, 1996). Parents may employ such strategies as guilt induction or love withdrawal to try and get their children to act in certain ways (Assor et al., 2004; Barber et al., 2005). A large body of research has evidenced that autonomy support relates to higher well-being (Cordeiro et al., 2016), better overall adjustment (Guay et al., 2003; Joussemet et al., 2005), healthy identity development (Luyckx et al., 2009), and less depressive symptoms (Ryan et al., 2016). In contrasts, psychological control is associated with increased risk for psychopathology (Ryan et al., 2016), more internalizing and externalizing problems (Costa et al., 2016; Soenens & Vansteenkiste, 2010), and higher levels of stress (Bartholomew et al., 2011).

For children, parents play a significant role in actively fostering or thwarting a their needs (Vansteenkiste & Ryan, 2013). When parents act in an autonomy supportive way, this allows children to be in touch with their inner self leading to feelings of authenticity, ultimately helping children to fulfill their basic psychological need for autonomy, contributing to overall well-being (Soenens et al., 2018). However, when parents act in a psychologically controlling way, this thwarts a child's need for autonomy and may result in a feeling of inner conflict and being controlled (Ryan et al., 2016). In fact, children whose parents are autonomy supportive demonstrate higher levels of intrinsic motivation, especially in comparison to children of controlling parents (Grolnick et al., 1997). Furthermore, intrinsic motivation is the hallmark of autonomous functioning given that these behaviors are carried out with a sense of volition (Ryan & Deci, 2000b).

Thus, one of the goals of parenting is to act in an autonomy supportive way, in doing so, fostering internalization of values, behaviors, and attitudes, ultimately leading to happier more self-directed children who are intrinsically motivated and more in touch with their sense of self (Joussemet et al., 2004, 2008).

1.3.3 Parenting and Identity Development: What We Currently Know

A number of studies have investigated how identity formation relates to parenting. In general, these studies have found that positive parent-adolescent relationships provide the support necessary to help adolescents form a coherent and synthesized identity (Grotevant & Cooper, 1985; Laursen & Collins, 2009). The majority of these studies have investigated how Marcia's (1966) identity status paradigm (i.e., achievement, foreclosure, moratorium, and diffusion) relates to parenting variables (e.g., Benson et al., 1992; Crocetti, Rubini, Luyckx, et al., 2008; Perosa et al., 2002; Sartor & Youniss, 2002). Overall, these studies suggest warm and supportive parenting to be associated with more mature identity development (i.e. achievement).

Other studies have investigated how synthesized identity relates to parenting and family environment (e.g., Blustein & Phillips, 1990; Reis & Youniss, 2004; Schwartz, Mason, Pantin, & Szapocznik, 2009; Schwartz, Pantin, et al., 2005). Schwartz and colleagues (2009), for example, found adolescents to be more likely to have a confused as compared to a coherent identity when families demonstrated poorer functioning. Similarly, Reis and Youniss (2004) found parental support and communication to predict decreases in identity confusion and increases in identity synthesis over a 2-year period. In another longitudinal investigation, Schwartz and colleagues (2005) found family functioning to be positively associated with identity coherence and negatively associated

with identity confusion. Overall, these studies suggests a positive family environment to be crucial to adolescent identity formation.

A smaller subset of studies have focused on identity processes as they relate to autonomy supportive and psychologically controlling parenting. In a sample of college students, Luyckx and colleagues (Luyckx, Soenens, Goossens, et al., 2007) found autonomy supportive parenting to be associated with increases in commitment. Beyers and Goossens (2008) found maternal supportive parenting (defined by a factor including autonomy support and psychological control) to lead to decreased exploration in breadth[3]. Conversely, Cordeiro and colleagues (2018) found autonomy supportive parenting to be associated with higher levels of exploration in breadth, exploration in depth, and commitment making. In regard specifically to psychological control, in a 3-year longitudinal study, Luyckx and colleagues (Luyckx, Soenens, Vansteenkiste, et al., 2007) found increases in perceived parental psychological control to be accompanied by decreases in commitment and increases in exploration in breadth. Similarly, Crocetti and colleagues (2008) found psychological control to be associated with higher levels of reconsideration of commitment. Thus, overall it appears that autonomy supportive parenting encourages healthy identity exploration and commitment, whereas psychologically controlling parenting leads to unhealthy identity exploration.

Unfortunately, while these studies contribute to the parenting-identity domain, their value is limited by a number of factors. First, while a limited number of studies have used a longitudinal design (see Luyckx, Schwartz, Goossens, et al., 2008; Schwartz, Mason, Pantin, & Szapocznik, 2009), the majority of studies investigating identity

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[3] These studies did not include a measure of ruminative exploration, thus, as previously discussed exploration in breadth, in its original conceptualization captured both reflective and ruminative components of exploration (Luyckx et al., 2011)

formation within the parenting context have been cross-sectional. While cross-sectional studies provide a meaningful starting point for the understanding of potentially important effects, longitudinal analyses are needed to provide a more complete developmental picture (Schwartz, 2005). Furthermore, given that ruminative exploration was incorporated into the dual-cycle model of Luyckx and colleagues at a later date (Luyckx, Schwartz, Berzonsky, et al., 2008), a number of the studies investigating parenting and identity relied on the original four identity process, and therefore have not been able to capture both the healthy and maladaptive sides of identity formation.

Furthermore, the large majority of studies in this domain have used college student samples also referred to as emerging adult samples (e.g., Beyers & Goossens, 2008; Luyckx, Soenens, Goossens, et al., 2007; Luyckx, Soenens, Vansteenkiste, et al., 2007). It is important for studies to examine how parenting and identity are related in younger adolescents, who are dealing with potentially different concerns than those of older adolescents (e.g., initial academic commitments, high school transition; Schwartz, 2005). Moreover, middle adolescents may demonstrate different relationships with parents than do older adolescents, as a function of declining dependence on parents as adolescents get older (Laursen & Collins, 2009).

Lastly, the samples of interest in studies investigating identity and parenting have for the most part been from the United States, Belgium, or the Netherlands. While certain similarities exist between Switzerland and the aforementioned countries, the Swiss context entails certain unique cultural specificities. These include but are not limited to the accessibility of university education as well as lower levels of inequality in average household income (Doepke & Zilibotti, 2019). These unique characteristics may result in differences in overall parenting and adolescent development important of investigation

(Doepke & Zilibotti, 2019). Indeed, the accessibility of university education, while on the one hand increases the realm of possibilities for adolescents in regard to their future, on the other hand can complicate the efforts of certain adolescents to form an identity (Schwartz, Côté, et al., 2005). Postindustrial identity formation has become increasingly complicated for adolescents who find themselves faced with seemingly endless possibilities in various life domains (e.g., career paths, worldviews; Schwartz, Côté, et al., 2005). These limitless choices can be experienced as intimidating and diequilibrating for adolescents, living in a society in which support for the formation of identity choices has decreased (Côté & Levine, 2002). In this sense, parents are amongst a number of important social-contextual factors that contribute to an adolescents' identity formation. In order to help adolescents on their identity formation journey, parents can act as sources of support for their children in a changing society where finding your path is becoming ever more complicated (Côté, 2000).

1.4 Pressure from Above, Pressure from Within: Identity Development Beyond Parenting

While parenting is clearly important for adolescent identity formation there are certain contextual factors that are of crucial importance to a parent's ability to provide an optimal parenting environment. On a theoretical level, Grolnick (2003) distinguished between three types of pressures on parents: pressure from "above" (pertaining to social-contextual factors such as inter-parental conflict, low marital quality, finances), pressure from "within" (pertaining to parents' psychological or personality factors) and pressure from "below" (pertaining to child's behaviors). We will now focus our attention on two

such factors addressing a pressure from above, coparenting, and a pressure from within, parental mental load.

1.4.1 Coparenting

In a family systems perspective, the family is viewed as a dynamic system made up of a number of relationships or subsystems (Cox & Paley, 2003; Minuchin, 1985). In regard to the child and the parent, two relationships exist which implicate the child either directly or indirectly: the parent-child relationship (parenting) and the coparental relationship. When two adults share responsibility for the care and management of at least one child they can be said to be engaging in a coparental relationship (Feinberg, 2003). More specifically, coparenting refers to the collaboration, support, and affirmation between parental figures in regard to the upbringing of a child (McHale et al., 2019). Coparenting goes beyond the simple completion of child care labor tasks, but includes any and all contributions to the growth and development of the child (McHale, 2007b).

The coparental relationship is not merely a dyadic relationship between mother and father, but a triangular or triadic relationship given its implication of the child (McHale & Irace, 2011). More specifically, given that coparenting is concerned with the way parents work together in the raising of their child, all coparenting interactions concern the child whether the child is explicitly involved or not. For example, a child may discuss with his parents what he feels would be an appropriate curfew (explicit involvement) or his parents may discuss on their own what they feel is an appropriate curfew (implicit involvement). Thus, the family is not simply made up of dyadic relationships between each of its members, but also triadic relationships between coparenting adults and each of their children (McHale, 2007b). Each child's coparenting

experience within the family will be unique to that given child as will their parenting experience (McHale, 2007b).

Importantly, coparenting is a unique construct distinguishable from both the parents marital relationship and the parent-child parenting relationship. Whereas the marital relationship has to do specifically with the romantic or emotional aspects between the two adult members, the coparenting relationship is separate, having to do specifically with how the two adults raise their child (Feinberg, 2003). The parenting relationship for its part has to do specifically with the individual interactions each parent engages in with their child (Feinberg, 2003). Indeed, a number of studies have found that even after controlling for the marital and individual parenting relationships, coparenting emerges as a unique predictor of child problem behavior (e.g., Caldera & Lindsey, 2006; Kolak & Vernon-Feagans, 2008).

Coparenting has been operationalized as a multidimensional construct (Feinberg, 2003; Teubert & Pinquart, 2011a). In the present dissertation we focus on two dimensions of coparenting: cooperation and triangulation. Cooperation refers to the extent to which parents communicate, support, and respect each other on parenting issues as well as the degree to which they support each other in their role as parent, working together to ease each other's loads (Margolin et al., 2001; Teubert & Pinquart, 2010). Triangulation has been defined by family theorists in slightly nuanced ways, but in general refers to the process of avoiding or diverting parental conflicts via the implication of the child in parental conflicts (Grych, 2002; S. Minuchin, 1974). This is may be exhibited in a number of different ways. Cross-generational coalitions may be formed in which one parent forms an alliance with the child in an attempt to exclude or undermine the other parent (Grych, 2002). Alternatively, detouring, or scapegoating, occurs when parental marital conflict is

avoided via the focusing of attention on certain aspects of the child, for example misbehaviour (Grych, 2002; Teubert & Pinquart, 2010).

When coparenting adults are attuned to a child's emotional needs, respond consistently in their regulation and socialization of the child, and collaborate with one another, healthy development will ensue (McHale et al., 2019). This family cohesiveness as much as any parent-child relationship will form the basis of a child's central locus of security upon which they will explore their environment (Cummings & Davies, 1996). Indeed, family systems theorists have emphasized the importance of coparenting dynamics for the understanding of how the family contributes to child development (e.g., Barzel & Reid, 2011).

In this light, a limited number of studies have investigated how family cohesion in general relates to identity formation in adolescence (e.g., Schwartz, Mason, Pantin, & Szapocznik, 2009), however, no study to date has investigated how this critical triangular dynamic of coparenting may influence how adolescents form their identity. Even more generally, relatively few studies have investigated coparenting during the adolescent years. This is most likely a result of research on coparenting originating in divorced or separated families with young children (Margolin et al., 2001; Teubert & Pinquart, 2010). During adolescence the coparenting relationship may be of even more importance given the developmental changes undergone by adolescents at this time (Teubert & Pinquart, 2011a). In fact, multiple longitudinal studies found that increased coparental conflict predicted adolescent antisocial behavior (Baril, Crouter, & McHale, 2007; Feinberg, Kan, & Hetherington, 2007). While the majority of research on coparenting and adolescents focuses on suboptimal psychosocial development, it seems likely that during this time

increases in teamwork and support amongst parents could serve as important resources for adolescents in their identity formation.

1.4.2 Parental Mental Load

Parents may be burdened with their own personal impediments making it more challenging to provide a nurturing and supportive environment for their child . Two such impediments may come in the forms of stress and depression, here on out referred to together as a parent's mental load. Indeed, depressive symptoms are a prevalent psychological occurrence with varying degrees of severity. In a large epidemiological study in Switzerland, 18.9% of the population reported suffering from depressive symptoms, of which 3.1% suffered from symptoms considered to be moderate to severe (N. Baer et al., 2013). Additionally, the World Health Organization estimates that by the year 2030, unipolar depression will be the cause of the highest burden of disease of all health related illnesses (Mathers et al., 2008).

Similarly, the highest levels of psychological stress are reported in men and women between the ages of 25 and 55 (Cohen & Janicki-Deverts, 2012), coinciding with the time most often associated with having children. Indeed, the demands on parents are many and varied. Furthermore, mothers may in particular feel an additional pressure to act as the primary caregiver as a result of societal pressure (Jackson & Mannix, 2004). Historically, mother have been blamed for the development of child and adolescent maladjustment (e.g., attachment theory), while fathers have been largely spared of such pressure (Phares, 1992). Thus, when parenting demands are added to parents' already existing life demands (i.e., work, finance, etc.), an imbalance between available resources and demands may be experienced as increased levels of stress (Deater-Deckard, 2004).

In fact, the effect of minor daily stressors can build over time and may have the greatest impact on parenting and child development (Deater-Deckard, 2004).

Critically important to parenting, stress and depression have been found to interfere with the formation and maintenance of adaptive interpersonal relationships (Goodman & Gotlib, 1999; Hirschfeld et al., 2000; Pelchat et al., 2003). As such, a large amount of research has explored the effect of parental depression and stress on the parent-child relationship. These studies have found depressed and stressed parents to demonstrate increased hostility, rejection, and coerciveness; decreased responsiveness; increased overall negative interactions with their children; and inconsistent discipline (e.g., Downey & Coyne, 1990; Dumas et al., 1989; Elgar et al., 2007; J. Garber & Flynn, 2001; Goodman & Gotlib, 1999; Lovejoy et al., 2000; Short & Johnston, 1997; Wilson & Durbin, 2010). In turn, children are more likely to demonstrate a variety of negative consequences including social and academic impairment, poor psychosocial adjustment and increased risk for the developmental of psychopathology (Anderson & Hammen, 1993; Lieb et al., 2002).

This pathway from parental maladjustment to child burden is one mechanism suggested in the developmental psychopathology framework as to the intergenerational transmission of mental illness, i.e., impairments to the quality of the parent-child relationship (Goodman & Gotlib, 1999; Lovejoy et al., 2000). The extant research on the impact on parental depression on children is vast, however, the majority of this research focuses on the development of psychopathology in children and to a much lesser extent adolescents (Goodman et al., 2011). Developmental psychopathology emphasizes the importance of investigating an issue of interest in terms of the particular developmental stage (Cicchetti & Rogosch, 2002). Thus, one cannot simply apply a mechanism of

transmission identified in childhood to adolescents, but rather must take into account the developmental issues at play. It is therefore imperative to consider how the key developmental task of adolescent identity formation may go awry as a result of parental mental load and how this may relate to adolescent depressive symptoms.

The proposition that impairments to identity formation may be at the root of a number of psychopathologies has sparked vast amounts of research including in relation to anxiety (Lillevoll et al., 2013), depression (Luyckx, Schwartz, et al., 2010), non-suicidal self-injury (Gandhi et al., 2017), eating disorders (Verschueren et al., 2017), and borderline personality disorder (Marcia, 2006). In support of the importance of such results, identity issues have now be directly incorporated into the fifth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) as a major factor for the emergence of psychopathology. However, there is a lack of knowledge in regard to how identity and psychopathology may be associated (Klimstra & Denissen, 2017). In fact, Klimstra and Denissen (2017) recently proposed a framework for the study of identity and psychopathology describing several models that may link identity and psychopathology, including the vulnerability model. The vulnerability model proposes that impairments in identity formation make one more likely to develop psychopathology (Klimstra & Denissen, 2017). However, few studies have investigated the association between identity processes as they relate to the vulnerability model of psychopathology (see for example Becht et al., 2019), none of which took into account the intergenerational dynamic that may be at play. Thus, there is a need for studies investigating potential pathways leading from parental maladjustment to adolescent maladjustment via impairments to age appropriate developmental processes.

1.5 Aims of the Present Dissertation

In light of the literature previously reviewed, a number of aims were set forth for this dissertation. The first two aims focus specifically on the relationship between identity and parenting, whereas the third and fourth aims focus on taking into account other familial factors which may ultimately influence adolescent identity formation. These aims will now be discussed.

Aim 1: Identity Typologies and Parenting : A Person-Centered Approach

The first aim of the present dissertation was to investigate the general associations between identity typologies and parenting. We were above all interested empirically deriving identity typologies based on an integrated six-dimensional process oriented model of identity. Process oriented approaches to identity allow for the better capturing of the fluid and dynamic process that is identity formation (Schwartz et al., 2013). Thus, in Chapter 2 we first tested an integrated version of the two dominant process models, as reviewed earlier, the dual-cycle model of Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008) and the three-factor identity model of Meeus, Crocetti, and colleagues (Crocetti, Rubini, & Meeus, 2008; Meeus et al., 2010). For a long time, these two lines of research have existed in relative parallels, until in a recent examination by Zimmerman and colleagues (2015), which evidence was provided for integrating the two models. More specifically, Zimmermann and colleagues (2015) proposed that the dimension of exploration in depth of the dual-cycle model could be further refined into two dimensions, one reflecting a "true" exploration in depth, entailing a profound in-depth evaluation in order to better

understand one's current commitments and a second dimension similar to the reconsideration of commitment of the three-factor model (Crocetti et al., 2010) model, in which current commitments that are no longer satisfactory are compared with other alternatives. This integrated model would thus allow for the capturing of six dimensions of identity: exploration in breadth, exploration in depth, commitment making, identification with commitment, ruminative exploration, and reconsideration of commitment. The proposed integrated model appears in Figure 1.3. During the course of this dissertation this was also investigated in other cultural contexts including in Finland (Mannerström et al., 2017), Georgia (Skhirtladze et al., 2016), Greece (Mastrotheodoros & Motti-Stefanidi, 2017), and Belgium (Beyers & Luyckx, 2016).

Figure 1.3 Proposed integrated model of identity processes
(inspired by Zimmermann et al., 2015)

Aim 1 sought to provide a deeper understanding as to the general associations between empirically derived identity typologies and parenting. While numerous studies have used either the dual-cycle or three-factor model of identity to empirically identify identity statuses, no study to date has used a process oriented model encompassing the six identity processes. Thus, in Chapter 2 we used an integrated model of identity in order to capture both the unique distinction between carefree diffusion and troubled diffusion as well as the distinction between ruminative moratorium and searching moratorium, identified in studies making use of the dual-cycle and three-factor models, respectively. Furthermore, in Chapter 2 we also aimed to gain an initial understanding as to how, on a cross-sectional level, these identity statuses would relate to perceived autonomy supportive parenting and perceived psychologically controlling parenting as well as to general psychosocial outcomes in adolescents. Indeed, these identity statuses have demonstrated unique profiles with the achievement statuses evidencing the healthiest overall adjustment, often followed by foreclosure, carefree diffusion, ruminative moratorium, and then troubled diffusion (Crocetti et al., 2010, 2011; Crocetti, Rubini, Luyckx, et al., 2008; Luyckx, Schwartz, Berzonsky, et al., 2008; Schwartz, Beyers, et al., 2011).

Given that the majority of identity research has unfortunately been limited by its cross-sectional nature, it is necessary to investigate how such identity dimensions change over time. Thus, in Chapter 3 we aimed to gain a more developmental understanding as to how the six identity processes evolve over time, and more specifically whether typologies of identity developmental could be empirically identified. Indeed, a limited number of studies have identified typologies of identity development (e.g., Helson & Srivastava, 2001; Josselson, 1996; Luyckx, Schwartz, Goossens, et al., 2008) often

demonstrating a certain coherence with Marcia's (1966) identity statuses. Unfortunately, these studies relied predominantly on female college and emerging adult populations, and thus it is unclear as to whether younger adolescents, in the prime of their identity development, could be classified by similar typologies. Furthermore, we aimed to take these findings one step further, by placing them in context, examining how these identity typologies would relate to evolutions in perceived autonomy supportive and psychologically controlling parenting.

Aim 2: Identity Processes and Parenting: A Variable-Centered Approach

Armed with a general understanding as to how identity typologies derived using the six-dimensional model of identity relate to perceived parenting, the second aim of the present dissertation took a more detailed approach. More precisely, the second aim of the present dissertation was to disentangle how the specific processes of identity relate to autonomy supportive and psychologically controlling parenting. Indeed, while typologies provide a snapshot of how adolescents experience identity development, with elevated levels of certain dimensions and lower levels of others, it remains essential to investigate how autonomy supportive and psychologically controlling parenting may promote or hinder certain specific identity behaviors. Knowledge gained from this type of an investigation is of especial importance in terms of interventional approaches to helping parents and adolescents during this developmental period. Thus, in both Chapter 4 and Chapter 5, we investigated how exploration in breadth, exploration in depth, commitment making, identification with commitment, ruminative exploration, and reconsideration of commitment relate to autonomy supportive and psychologically controlling parenting. Furthermore, in Chapter 4 we delved deeper into two aspects of psychologically

controlling parenting: dependency-oriented and achievement-oriented psychological control (Blatt, 1974; Soenens et al., 2010). Whereas dependency-oriented psychological control is targeted at maintaining interpersonal closeness or relatedness, achievement-oriented psychological control relates to issues of academic achievement (Soenens et al., 2010). Given that middle adolescence is a time during which Swiss adolescents are faced with a very important academic transition from obligatory secondary school to either vocational or gymnasium/senior high school studies (Nakamura et al., 2007), we were interested in investigating whether adolescents would perceive a distinction in the type of psychological control being used by their parents and whether this would have differing association with adolescents' identity formation.

Aim 3: The Greater Family Context: Coparenting

While parenting has received the far greatest amount of attention in regard to family dynamics and adolescent identity formation, the relationship between parent and child does not exist in isolation. In fact, it has been said that while the parent-child dyad provides valuable information concerning a child's environment, they " do not represent the child's significant reality, especially after infancy" (P. Minuchin, 1985, p. 296). Thus, it is surprising that few studies have expanded their scope to include other family variables that may provide valuable insight into adolescent identity formation. Those that have investigated other family dynamics have included dimensions such as family support (Schwartz, Pantin, et al., 2005) and family cohesion (Schwartz, Mason, Pantin, & Szapocznik, 2009). While such dimensions assessing overall family dynamics provide a general sense of the family, they fail to take into account the individuality of each child in relation to their experience with their parents (McHale, 2007b). Thus, in Chapter 4,

we investigated how the coparenting dimensions of cooperation and triangulation would relate to perceived autonomy supportive and psychologically controlling parenting, and ultimately to adolescent identity processes.

Aim 4: Parental Mental Load: An Antecedent to Parenting and Identity Formation?

One of the key factors influencing a parents ability to provide optimal parenting is parents' mental load. Given the importance of parents providing a warm and supportive environment for adolescent identity formation (Beyers & Goossens, 2008; Crocetti et al., 2017; Luyckx, Soenens, Goossens, et al., 2007), the fourth aim of the present dissertation was to examine in what way parental mental load would be associated with perceived autonomy supportive and psychologically controlling parenting and ultimately with adolescents' identity exploration and commitment. Furthermore, as suggested in the developmental psychopathology framework, one of the main mechanisms of the intergenerational transmission of psychopathology is the quality of the parent-child relationship (Goodman & Gotlib, 1999; Sroufe & Rutter, 1984). Thus, in Chapter 5 we sought to take our investigation one step further by examining the full pathway from parental mental load to adolescents depressive symptoms via impairments to parenting and adolescent identity formation. Results of such an investigation would allow for a more thorough understanding of the origins of adolescent psychopathology via impairments to normative adolescent development.

The Overall Picture

Thus, in an overall sense, this dissertation sought to delve deeper into the understanding of how the parenting context would be associated with adolescent identity dimensions taking into account two antecedent factors to parenting: coparenting and parental mental load. To conclude this section, Figure 1.4 provides a summary of these four research aims as they relate to one another as well as the dimensions that will be used to define each one in the present dissertation.

Figure 1.4 Summary of dissertation aims

And What About Abe?

If we now take a small detour, returning to our example of Abe from the beginning of this chapter, we can see how Abe and his family illustrate the heart of this dissertation. As previously discussed, Abe's parents clearly voice their opinion as to the identity commitment they feel Abe should make. Abe, however, does not seem to see things the same way as them. How will Abe's parents' lack of autonomy support relate to the type of identity work an adolescent like Abe engages in? Will they be as likely to engage in healthy exploration and commitment, or be more likely to make use of maladaptive identity strategies? Similarly, how will Abe's parents' coparental relationship relate to Abe's identity work? Abe's parents appear to have discussed and to be on the same page as to how they wish to raise Abe, but will this serve as a resource to Abe? And lastly, will the added stress placed on Abe's parents by their respective parents impact their ability to provide a supportive environment to Abe or will their levels of stress make it more likely for Abe's parents to act in a controlling way with Abe? The hope is that the present dissertation will provide insight as to such questions.

1.6 Overview of the Study Design

The data source for this dissertation consists of a longitudinal study of middle adolescents funded by the Swiss National Science Foundation (FNS n°10014_156155/1). This study was conducted from 2015 to 2018 in the French speaking Swiss canton of Vaud. In collaboration with the School and Youth Department of the Canton of Vaud (SYDCV), adolescents in their final year of mandatory schooling (approximate age 14.5 years) were recruited from ten high schools from the eight cantonal schooling districts.

These ten schools were randomly identified by the SYDCV allowing for socioeconomic and educational representation.

Adolescents and their parents were asked to complete self-report questionnaires at four time points (T1, T2, T3, T4) spaced out by approximately five months. At each of the study waves parents were mailed out questionnaires, with the option to complete their questionnaires either on-line or to fill-in and mail back completed questionnaires via prepaid envelopes. For adolescents, the first two waves were completed in class in the presence of two trained members of the research team. Adolescents then completed their third and fourth wave questionnaires through mail in or on-line participation. All participation was confidential and all identifying information was anonymized. Adolescents provided active consent and were informed of their right to withdraw from the study at any time. Parents provided passive consent and were equally made aware of their right to resign from the study at any time. Adolescents were remunerated for their participation at T3 and T4 with the of choice 15CHF gift cards from a variety of stores or they had the option to donate 15CHF. Following each wave, parents were placed in a draw to win one of forty 50CHF gift cards for a local grocery store.

1.7 Outline of the Empirical Chapters

The data collected in this longitudinal study were used to investigate the four research aims previously identified. These research aims have been addressed in four empirical chapters (Table 1.1).

The first two empirical chapters (Chapter 2 and Chapter 3) address our first research aim, taking an in depth look at adolescent identity formation and perceived autonomy supportive and psychologically controlling parenting. More specifically, in

Chapter 2 using data from T1, we first aimed to clarify the factorial structure of the identity measure used in our study, the Dimensions of Identity Scale, in order to determine the appropriateness of a six-dimensional integrated model. The DIDS is a measure that assesses the five dimensions of the Luyckx and colleague's dual-cycle model of identity (i.e., exploration in breadth, exploration in depth, commitment making, identification with commitment, and ruminative exploration). We performed confirmatory factor analysis to determine whether an integrated model of identity, that is, a model of identity based on the dual-cycle model, may in fact include the dimension of reconsideration of commitment described in the three factor identity model. Then, we performed person-centered analyses to empirically derive identity statuses based on the six dimensions of identity. Lastly, we carried out multivariate analysis of variance (MANOVA) analyses to determine whether the different identity statuses would be characterized by different parenting typologies, including perceived autonomy supportive and psychologically controlling parenting. We also investigated whether these identity statuses would be characterized by different psychosocial profiles.

Building upon the cross-sectional knowledge gained in Chapter 2, in Chapter 3 we sought to gain a developmental understanding as to the relationship between adolescent identity formation and perceived parenting. Thus, using data from all four time points (i.e., T1, T2, T3, T4), we carried out latent class growth analyses (LCGA) in order to identify trajectories of identity development across a major educational transition in the lives of Swiss adolescents as well as trajectories of perceived autonomy supportive and psychologically controlling parenting. To further characterize adolescents adjustment during this time, trajectories of psychosocial adjustment were also identified. In our ultimate goal of better understanding how identity development and parenting relate and

evolve over time, we performed chi-squared analyses in order to identify the degree of overlap between specific identity trajectories and perceived parenting trajectories. We similarly investigated the degree of overlap between perceived parenting trajectories and psychosocial adjustment trajectories.

In Chapter 4, we focused on addressing our second and third research aims. That is we performed structural equation modeling to investigate how specific parenting dimensions would relate to each of the identity processes and in what way coparenting would relate to identity formation. More specifically, we propose a model by which coparental cooperation and coparental triangulation, as perceived by the adolescent, would spillover into the parenting domain, effecting a parents' use of autonomy support, dependency-oriented psychological control, and achievement-oriented psychological control, and ultimately adolescent identity formation based on the six identity processes.

Lastly, Chapter 5 addresses our second and fourth research aims. In a developmental psychopathology perspective, we seek to examine one potential path of intergenerational similarity in maladjustment. That is, we put forth a model in which parental mental load would lead to adolescent depressivity through impairments to perceived parenting and adolescent identity formation. Using a multi-informant design in which mothers report on their mental load and adolescent children on their perception of parenting, their identity formation, and depressive system, we used structural equation modeling to test such a hypothesized model.

Table 1.1 provides a brief overview of certain methodological characteristics (i.e., study design, sample characteristics, main analytical techniques) of each of the studies as well as a summary of which chapters address which of our research aims.

Table 1.1

Overview of the Empirical Chapters

		Research Aim	Design	Total N	Age Range (years)	Gender (% girls)	Analytic Technique	Notes
Chapter 2	Paper 1	Aim 1	Cross-sectional (T1)	1105	13-18	51.0	CFA; Cluster analysis; MANOVA	Person-centered
Chapter 3	Paper 2	Aim 1	Longitudinal (T1-T4)	483	13-19	68.4	LCGA; Chi-square	Person-centered Variable-centered
Chapter 4	Paper 3	Aim 2 Aim 3	Cross-sectional (T1)	1105	13-18	51.0	CFA; SEM	Variable-centered
Chapter 5	Paper 4	Aim 2 Aim 4	Cross-sectional (T4)	187	15-18	64.2	SEM	Variable-centered Multi-informant

Note. CFA= confirmatory factor analysis; MANOVA= multivariate analysis of variance; LCGA= latent class growth analysis; SEM= structural equation modeling

Chapter 2

Further insight into adolescent personal identity statuses:

Differences based on self-esteem, family climate,

and family communication[4]

During adolescence, youngsters are faced with the challenging task of forming an identity. This process can be either supported or hindered by adolescents' family context. The present study used a six-process model of personal identity including the five identity processes described by the dual-cycle model of identity (exploration in breadth, commitment making, exploration in depth, identification with commitment, and ruminative exploration) as well as a sixth identity process of reconsideration of commitment, commonly described in the three-factor model of identity. In the current investigation, we sought to evaluate how adolescents in identity statuses derived from this six-process model differed based on psychological adjustment, perceived family climate, and family communication. A total of 1,105 Swiss adolescents (M_{age} = 15.08; 51% female) completed self-report questionnaires at one time point. Using a person-centered approach, identity statuses were empirically derived and unique profiles for each identity status were identified. We identified six identity statuses: Achievement, Foreclosure, Ruminative Moratorium, Reconsidering Achievement, Troubled Diffusion,

and Carefree Diffusion. Statuses with the highest degree of commitment showed the most positive profiles of psychological adjustment and perceived family climate, whereas those with the lowest levels of commitment demonstrated the most negative ones. Adolescents in the Reconsidering Achievement status, however, reported high levels of both parental support and psychological control. The use of the six-process model of identity allowed for the derivation of six identity statuses and provided further insight into how adolescents in different identity statuses confront identity-related issues in the context of their family.

Introduction

The central developmental task during adolescence is the development of a coherent sense of identity (Erikson, 1968). Adolescents construct this sense of self in continuous interaction with their environment (Erikson, 1968) with their family being one important context (Noller, 1994). During these adolescent years, and especially towards the end of mandatory schooling, questions concerning their future education and professions are often at the heart of identity formation (Porfeli et al., 2011). It is during key life moments such as these that supportive interactions with one's immediate context may be of particular importance for fostering optimal identity development (Koepke & Denissen, 2012). Herein, drawing upon contemporary models of identity development (Crocetti, Rubini, & Meeus, 2008; Luyckx, Goossens, Soenens, et al., 2006), the first aim of the present study was to empirically derive identity statuses in a sample of Swiss adolescents in their final year of mandatory schooling. Second, we examined differences between these identity statuses in terms of family functioning (i.e., family climate and family communication) and self-esteem.

Models of Identity Formation

One of the most important models for understanding personal identity formation is Marcia's (1966) identity status model. Drawing upon Erikson's (1968) writings on ego identity development, Marcia proposed that identity formation be understood as a function of two underlying dimensions: exploration (i.e., the process of exploring different identity alternatives in varying life domains) and commitment (i.e. the adherence to a set of values and beliefs). The degree to which adolescents engage in these two identity processes could then be used to assign adolescents to one of four identity statuses (Marcia, 1966): *Achievement* (strong commitments after a period of exploration), *Moratorium* (exploration of alternatives without current strong commitments), *Foreclosure* (strong commitments without active exploration), and *Diffusion* (lack of active exploration and commitments).

More recently, two process-oriented models of personal identity have been proposed: the dual-cycle model of Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008) and the three-factor model of Meeus, Crocetti, and colleagues (Crocetti, Rubini, & Meeus, 2008; Meeus et al., 2010). The dual-cycle model (see Table 2.1) unpacks Marcia's (1966) dimensions of exploration and commitment into three dimensions of exploration (*exploration in breadth, exploration in depth* and *ruminative exploration*) and two dimensions of commitment (*commitment making* and *identification with commitment*). Through the use of person-centered analyses Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008; Schwartz, Beyers, et al., 2011) empirically derived Marcia's four original identity statuses (Achievement, Foreclosure, Moratorium, and Troubled

Table 2.1
Summary of Identity Models and Empirically Derived Identity Statuses

Dual-cycle model							Three-factor model						
Identity dimensions		Identity Statuses					Identity dimensions		Identity Statuses				
		A	F	M	TD	CD			A	F	M	SM	TD
commitment making	selection and adherence to initial commitments	high	high	low	low	low	commitment	internalization and integration of commitments	high	high	low	high	low
identification with commitment	integration and identification with commitments	high	high	low	low	low							
exploration in breadth	active general exploration of a wide number of options	high	low	high	low	low							
exploration in depth	continued and more thorough gathering of information about existing commitments	high	low	high	low	low	in-depth exploration	thorough and in-depth exploration of existing commitments	high	low	mod-erate	high	low
ruminative exploration	continued mulling over different options without being able to come to commitments	low	low	high	high	low							
							reconsideration of commitment	reconsideration of current commitments for alternatives	low	low	high	high	low

Note. A = Achievement ; F = Foreclosure ; M = Moratorium ; TD = Troubled Diffusion ; CD = Carefree Diffusion ; SM = Searching Moratorium. High and low refer to the level of expression of each identity dimension in the corresponding empirically derived identity status.

Diffusion; see Table 2.1) as well as a second type of diffusion, Carefree Diffusion, characterized by low levels on all five identity dimensions, with an untroubled apathetic approach toward identity. Adolescents in these empirically derived statuses have demonstrated differing psychosocial profiles, with adolescents in highly committed statuses (i.e., Achievement and Foreclosure) generally being characterized by higher levels of self-esteem and satisfaction with life, whereas adolescents in statuses characterized by lack of commitments and high ruminative exploration (i.e., Moratorium and Troubled Diffusion) demonstrated lower levels of self-esteem and higher levels of internalizing and externalizing symptoms (Crocetti et al., 2011; Luyckx, Schwartz, Berzonsky, et al., 2008; Schwartz, Beyers, et al., 2011)

The three-factor model of personal identity (Crocetti, Rubini, & Meeus, 2008; Meeus et al., 2010) puts forth a model with two forms of exploration, *in-depth exploration* and *reconsideration of commitment*, and a single dimension of *commitment*. As compared to the dual-cycle model and Marcia's original conceptualization, the three-factor model assumes that adolescents enter into adolescence with a set of already formed commitments (Crocetti, 2017; Crocetti et al., 2017). Thus, in-depth exploration and commitment of the three-factor model parallel exploration in depth and identification with commitment of the dual-cycle model. Reconsideration of commitment, for its part, can be seen as an evaluation and comparison of current commitments that may no longer seem satisfactory with other possible alternatives (Crocetti, Rubini, & Meeus, 2008).

Identity statuses have also been derived using the three-factor model (Crocetti et al., 2010; Meeus et al., 2010), once again finding Marcia's four original statuses (Achievement, Foreclosure, Troubled Diffusion, and Moratorium; see Table 2.1) along with a new meaningful distinction of a second type of moratorium, Searching

Moratorium, in which adolescents have already formed commitments, but are reconsidering these commitments for possible new alternatives (Crocetti & Meeus, 2015). Adolescents in statuses derived from the three-factor model also demonstrated unique psychosocial profiles, with adolescents in highly committed statuses demonstrating the most adaptive profiles, whereas adolescents in statuses characterized by the lack of commitments demonstrating the least adaptive profiles (Crocetti, Rubini, & Meeus, 2008; Schwartz, Beyers, et al., 2011). Interestingly, adolescents characterized by the simultaneous presence of commitment dimensions and reconsideration (i.e., Searching Moratorium) appear to fall somewhere in the middle (Crocetti, Rubini, & Meeus, 2008; Schwartz, Beyers, et al., 2011).

While the dual-cycle and three-factor models differ in terms of the extent to which adolescents enter into this developmental period with commitments, with the three-factor model suggesting adolescents begin with a set of preliminary commitments, whereas the dual-cycle model proposes that exploration begins from a lack of pre-existing commitments (Crocetti, 2017; Luyckx et al., 2011) both models include, either implicitly or explicitly, the dynamic of maintaining or abandoning identity commitments. Thus, while reconsideration of commitment is not explicitly defined by a separate dimension in the dual-cycle model, it is, however, represented by the recursive arrow typically added to pictorial representations of the model (see Luyckx et al., 2011) to indicate that identity formation starts over again when initial commitments are abandoned. Adding the dimension of reconsideration of commitment from the three-factor model to the dual-cycle model would allow for the explicit measurement of this important aspect of identity formation along with the five other identity processes in the dual-cycle model. The

evaluation of these six identity processes would provide a more thorough and detailed understanding of the recursive and dynamic aspect of identity formation.

In this light, in a recent examination of the dual-cycle model, Zimmermann and colleagues (2015) proposed that the dimension of exploration in depth of the dual-cycle model be further refined into two dimensions: a "true" exploration in depth, entailing a thorough evaluation in order to better understand one's current commitments, and a second dimension similar to the reconsideration of commitment of the three-factor model (Crocetti, Rubini, & Meeus, 2008). In the present study, this combined model composed of commitment making, identification with commitment, exploration in breadth, exploration in depth, reconsideration of commitment, and ruminative exploration, is referred to as the six-process model of identity. Recently, evidence supporting the validity of a six-process model of identity formation has been offered by studies conducted in Finland (Mannerström et al., 2017), Georgia (Skhirtladze et al., 2016), Greece (Mastrotheodoros & Motti-Stefanidi, 2017), and Belgium (Beyers & Luyckx, 2016). However, these studies focused on late-adolescents and young-adults, who are further along in the process of identity formation. In the present study, we focused on middle-adolescents in Switzerland at a critical moment in their life (i.e., the end of mandatory schooling) and examined differences between identity statuses in regard to self-esteem and family functioning, in terms of both family climate and family communication.

Identity, Family Climate, and Family Communication

During the adolescent period of self-discovery, parents may support adolescent identity formation in a variety of ways: more generally by supporting exploration and encouraging the making of commitments that fit well with their personal values (i.e., by

offering a supportive family climate), or more specifically through dialogue with adolescents, including asking questions, being available and open to adolescent disclosure, and exchanging points of view (i.e., by encouraging family communication).

A number of studies have sought to identify how family climate relates to identity formation (e.g., Beyers & Goossens, 2008; Crocetti et al., 2017). Past research has suggested that adolescents whose parents are autonomy-supportive and refrain from using psychological control, are more often able to explore and integrate identity commitments into their sense of self (Albert Sznitman, Van Petegem, et al., 2019; Beyers & Goossens, 2008). Through the encouragement of adolescent autonomy, parents allow adolescents to get to know themselves and to figure out what their personal values and goals are, thus ultimately encouraging them to make congruent identity choices (Soenens et al., 2007; Soenens & Vansteenkiste, 2011). Parents who intrude on adolescents' internal thoughts and feelings and enforce a certain way of thinking or acting, are more likely to inhibit adolescents' ability to be attuned to their inner self, making identity-related decisions more difficult (Luyckx, Soenens, Vansteenkiste, et al., 2007). Thus, the general family climate may play an important role in adolescents' personal identity formation.

Given the interactional nature of identity formation, parent-adolescent communication is also at the heart of this development process. In fact, it is via interaction and continuous feedback from one's environment that one constructs one's sense of who one is (Bosma & Kunnen, 2001; Luyckx, Goossens, & Soenens, 2006). By disclosing, discussing and exploring doubts and considerations with one's parents, adolescents may be better able to figure out whether certain options are suitable choices for their future. It is through his constant give and take from one's environment that one tackles identity questions (Kunnen & Metz, 2015). Therefore, not only is the general family climate

important to one's identity formation, but also the degree and quality of interactions with parents and the information that is shared between them. However, relatively little is known in regard to how family communication relates to personal identity, with the exception of one study of Crocetti, Rubini, Luyckx, and Meeus (2008) finding adolescents in highly committed statuses to have a better quality of communication. Hence, we aimed to explore between-status differences in family communication, in terms of perceived parental solicitation (i.e., asking questions), and adolescent disclosure and secrecy.

The Present Study

The first aim of this study was to empirically derive identity statuses using the six-process model of personal identity. We expected a six-cluster solution including Troubled Diffusion and Carefree Diffusion, in line with previous findings using the dual-cycle model (Luyckx, Schwartz, Berzonsky, et al., 2008; Zimmermann et al., 2015), Searching Moratorium and Moratorium, as reported in previous studies using the three-factor model (Crocetti et al., 2012; Meeus et al., 2010), as well as Achievement and Foreclosure.

The second aim was to examine between-status differences in terms of self-esteem. We hypothesized that statuses characterized by the highest levels of commitment (i.e., Achievement and Foreclosure) would report the highest levels of self-esteem and those statuses characterized by lower levels of commitment and higher levels of ruminative exploration (i.e., Ruminative Moratorium and Troubled Diffusion) would report the lowest levels of self-esteem.

The final aim was to investigate differences in perceived family climate and family communication. We expected that adolescents in statuses characterized by high levels of

commitment and exploration (i.e., Achievement) would report a supportive family climate (high in autonomy support and low in psychological control), whereas adolescents in statuses characterized by high levels of commitment without exploration (i.e., Foreclosure) as well as those high in ruminative exploration (i.e., Moratorium and Troubled Diffusion) would report higher levels of psychological control. In regard to family communication, we expected those adolescents more involved in identity-related work (i.e., Achievement) to be oriented towards communicating with their parents (i.e., high levels of parental solicitation and adolescent disclosure) and adolescents unconcerned by identity work (i.e., Carefree Diffusion) to be characterized by lowest levels of communication. In regard to the Searching Moratorium status, we reasoned that given their high levels of commitment, exploration, and reconsideration of commitment, they could either be similar to the Achievement status (given their already formed commitments and healthy exploration) or alternatively more similar to Moratorium (given their rethinking of already formed commitments).

Method

Participants and Procedures

Participants were 1,105 adolescents (51% female) in their last year of mandatory secondary school (i.e., 9th grade) recruited from school establishments across the Swiss French-speaking canton of Vaud. Parental consent and adolescent assent were obtained before in-class group administration of the study questionnaires. Mean age was 15.08 years ($SD = .64$), with the majority being of Swiss nationality (71%) and French being the predominant language spoken at home (84%). Overall, 1.86% of the data was missing.

This data was likely to be missing at random, as Little's MCAR-test was non-significant [$\chi^2(181) = 199.66$, *ns*]. Therefore, missing data was dealt with through a procedure of expectation-maximization (Enders & Bandalos, 2001).

Measures

Study questionnaires were administered in French and all questionnaire items were rated on a 5-point Likert scale ranging from 1 (*completely disagree/almost never*) to 5 (*completely agree/often*).

Identity processes. The French adaptation of the Dimension of Identity Development Scale (Luyckx, Goossens, Soenens, et al., 2006; DIDS; Luyckx, Schwartz, Berzonsky, et al., 2008; Zimmermann et al., 2015) was used to assess future plans and life paths on six identity dimensions. Sample items read: 'I have decided on the direction I want to follow in my life' (Commitment Making; 5 items); 'I sense that the direction I want to take in my life will really suit me' (Identification with Commitment; 5 items); 'I think actively about different directions I might take in my life' (Exploration in Breadth; 5 items); 'I regularly talk with other people about the plans for the future I have made for myself' (Exploration in Depth; 2 items); 'I keep wondering, which direction my life has to take' (Ruminative Exploration; 5 items); 'I think about whether my future plans match what I really want' (Reconsideration of Commitment); 3 items. Cronbach's alphas were .88 for commitment making, .86 for identification with commitment, .80 for exploration in breadth, .35 for exploration in depth, .57 for reconsideration of commitment, and .81 for ruminative exploration. As in other studies (e.g., Skhirtladze et al., 2016; Zimmermann et al., 2015), exploration in depth demonstrated a low reliability. However, given that

alpha coefficients decrease with fewer items (Iacobucci & Duhachek, 2003), it is more appropriate to consider the inter-item correlations of this 2-item scale. This was .21 ($p <$ .001), which is comparable to previous research (e.g., Zimmermann et al., 2015), and in the range of .15-.50 as recommended by Clark and Watson (1995) .

Self-esteem. The 5-item Global Self-Worth subscale of the Self Perception Profile for Adolescence (Harter, 1988; Zimmermann et al., 2010) was used to asses adolescents' perception of their self-worth. A sample item reads 'I am often disappointed in myself'(reverse coded). The scale demonstrated adequate internal consistency ($α = .83$).

Perceived autonomy support. Perceived autonomy support was assessed using the 7-item Autonomy Support subscale of the Perceptions of Parents Scale (Grolnick et al., 1991; Mantzouranis et al., 2012). A sample item reads 'My parents help me to choose my own direction'. As in previous studies (e.g., Soenens et al., 2007), it demonstrated adequate reliability ($α =.74$).

Perceived psychological control. The 8-item Dependency-oriented psychological control subscale from the Dependency-Oriented and Achievement-Oriented Psychological Control Scale (Mantzouranis et al., 2012; Soenens et al., 2010) was used to assess adolescents' perception of the parental use of control aiming to maintain interpersonal closeness and relatedness (e.g., 'My parents are only happy with me if I rely exclusively on them for advice'). The scale demonstrated acceptable internal consistency ($α = .78$).

Responsiveness. The degree to which parents are perceived as involved, responsive, and loving was measured using the 7-item Acceptance-Rejection subscale from the Child Report of Parent Behavior Inventory (Schaefer, 1965). A sample item reads 'My parents are able to make me feel better when I am upset'. The scale demonstrated good internal consistency ($\alpha = .87$).

Perceived parental solicitation. We assessed the extent to which parents ask questions concerning their children's activities using the 5-item Parental Solicitation Scale of Stattin and Kerr (2000). A sample item reads 'During the past month, how often have your parents started a conversation with you about your free time?'. The internal consistency was .60, in line with previous studies (Keijsers et al., 2010).

Adolescent information management. We measured adolescent disclosure, the spontaneous sharing of information by adolescents with their parents, and secrecy, the concealing of information from parents, using the 3-item disclosure dimension (e.g., 'If you are out at night, do you spontaneously tell your parents what you have done that evening?') and the 2-item secrecy dimension (e.g., 'I keep much of what I do in my free time secret from my parents') from the Child Disclosure Scale (Stattin & Kerr, 2000). Both subscales demonstrated acceptable internal consistency ($\alpha = .65$ for Disclosure and $\alpha = .74$ for Secrecy), comparable to previous research (Keijsers et al., 2010).

Results

Preliminary Analyses

Table 2.2 provides means, standard deviations, and correlations among study

variables.

Empirically Derived Identity Statuses

Cluster analysis was conducted on the six identity dimensions using a two-step procedure (Gore, 2000). Prior to conducting the analysis, scores on identity dimensions were standardized. In the first step of the cluster analysis, Ward's Hierarchical clustering procedure was applied based on squared Euclidian distances. In the second step, the cluster centers were used as non-random starting points for a k-means non-hierarchical iterative clustering procedure to optimize the cluster solution. We considered five- to nine-cluster solutions. The six-cluster solution was selected based on the step-wise criterion and on explanatory power (the clustering solution had to explain close to 50% of the variance at the least in each of the identity dimensions; Milligan & Cooper, 1985). Figure 2.1 presents the final cluster solution. The cluster solution accounted for 60% of the variance in commitment making, 55% of the variance in identification with commitment, 51% of the variance in exploration in breadth, 50% of the variance in exploration in depth, 51% of the variance in ruminative exploration, and 45% of the variance in reconsideration of commitment.

Table 2.2
Means, Standard Deviations, and Correlations Among Study Variables

	M	SD	2	3	4	5	6	7	8	9	10	11	12	13
1. Commitment Making	3.81	0.86	.66**	.22**	.40**	-.02	-.50**	.19**	.21**	-.04	.08**	.13**	-.06*	.16**
2. Identification with commitment	3.63	0.80		.25**	.41**	-.02	-.42**	.25**	.21**	-.04	.07*	.15**	-.10**	.20**
3. Exploration in breadth	3.84	0.72			.34**	.28**	.19**	.13**	.13**	.03	.16**	.17**	-.04	-.01
4. Exploration in depth	3.64	0.85				.25**	-.10**	.27**	.27**	-.03	.16**	.22**	-.04	.07*
5. Reconsideration of commitment	3.21	0.90					.39**	.06*	-.04	.16	.07*	.11**	.01	-.08**
6. Ruminative exploration	3.01	0.97						-.10**	-.15**	.13**	.03	-.01	.12**	-.22**
7. Responsiveness	3.95	0.76							.72**	-.18**	.38**	.51**	-.35**	.30**
8. Autonomy support	3.76	0.64								-.34**	.27**	.40**	-.30**	.30**
9. Psychological control	2.38	0.71									.07*	-.12**	.25**	-.19**
10. Parental solicitation	3.02	0.88										.39**	-.11**	.10**
11. Disclosure	3.55	1.05											-.37**	.15**
12. Secrecy	2.23	1.12												-.25**
13. Self-esteem	3.84	1.02												-

Note. $^*p < .05$; $^{**}p < .01$

Drawing upon past research (Crocetti, Rubini, Luyckx, et al., 2008; Luyckx, Schwartz, Berzonsky, et al., 2008; Zimmermann et al., 2015), we assigned cluster labels based on the standardized scores for the six identity dimensions within each cluster. We found evidence for an Achievement cluster ($n = 202$), which was characterized by high scores on both commitment dimensions, moderately high scores on exploration in breadth and exploration in depth, and very low scores on ruminative exploration and reconsideration of commitment. The Foreclosure cluster ($n = 138$) was characterized by moderately high scores on commitment making, moderate scores on identification with commitment, low to very low scores on exploration in breadth, ruminative exploration, and reconsideration of commitment, and scores near the average on exploration in depth. Searching Moratorium ($n = 208$) was characterized by moderately high scores on commitment dimensions as well as exploration in breadth and exploration in depth, high scores on reconsideration of commitment, and moderate scores on ruminative exploration. Moratorium ($n = 298$) was characterized by moderately low scores on commitment dimensions, moderately high scores on ruminative exploration and reconsideration of commitment, as well as scores near the mean on exploration in breadth and exploration in depth. Carefree Diffusion ($n = 165$) was characterized by very low scores on exploration in depth, moderately low scores on reconsideration of commitment, low scores on both commitment dimensions, and scores around the mean for exploration in breadth and ruminative exploration. Lastly, Troubled Diffusion ($n = 94$) was characterized by very low scores on commitment dimensions, exploration in breadth, and exploration in depth, moderately low scores on reconsideration of commitment, and moderate scores on ruminative exploration.

Figure 2.1. Z scores for the six identity processes in the 6-cluster solution.

Adolescent Self-Esteem, Perceived Family Climate, and Family Communication

A MANOVA was conducted with cluster membership as an independent variable and family climate variables (responsiveness, autonomy-support, psychological control), family communication variables (parental solicitation, information disclosure and secrecy), and adolescent self-esteem as dependent variables. Statistically significant multivariate cluster differences were found, $F(35, 4183) = 5.27$, $p < .001$, $\eta^2 = .04$. Follow-up univariate F-values, η^2-values, and pair-wise comparisons (using Tukey's Honestly Significant Difference test) are shown in Table 2.3.

In regard to cluster differences, on parental responsiveness, Achievement and Searching Moratorium scored highest and Troubled Diffusion lowest, although Troubled Diffusion did not differ significantly from Carefree Diffusion. Furthermore, Searching Moratorium reported significantly higher levels of responsiveness than did Moratorium. On autonomy support, Achievement scored highest and differed significantly from Foreclosure, Moratorium, Carefree Diffusion and Troubled Diffusion (who scored lowest), although not significantly different from Carefree Diffusion. Achievement did not differ significantly from Searching Moratorium, but once again Searching Moratorium reported significantly higher levels of autonomy support than did Moratorium. On psychological control, Achievement scored lowest and differed significantly from Searching Moratorium and Carefree Diffusion who scored highest, although not significantly different from Foreclosure, Moratorium, or Troubled Diffusion. On parental solicitation, Searching Moratorium scored highest, however, not significantly different from Achievement or Moratorium and were significantly different from Troubled Diffusion who scored lowest. In terms of information disclosure, Achievement and Searching Moratorium scored highest and were

Table 2.3
Mean-level Differences on Adolescent Self-esteem, Parenting Variables, and Family Communication

Variables	Cluster						F-value (35, 4183)	η^2
	Achievement	Foreclosure	Searching Moratorium/ Reconsidering Achievement	Ruminative Moratorium	Carefree Diffusion	Troubled Diffusion		
Responsiveness	4.22[a] (0.06)	3.88[b] (0.06)	4.20[a] (0.05)	3.92[b] (0.04)	3.68[bc] (0.06)	3.56[c] (0.08)	18.30[***]	.08
Autonomy-support	4.08[a] (0.05)	3.75[bc] (0.05)	3.94[ab] (0.04)	3.71[c] (0.04)	3.59[cd] (0.05)	3.49[d] (0.07)	18.50[***]	.09
Psychological control	2.20[a] (0.05)	2.26[ab] (0.06)	2.45[b] (0.05)	2.40[ab] (0.04)	2.45[b] (0.06)	2.38[ab] (0.08)	3.68[**]	.02
Parental solicitation	3.09[ab] (.07)	2.89[bc] (0.08)	3.29[a] (0.07)	3.07[ab] (0.05)	2.92[bc] (0.07)	2.75[c] (0.10)	6.56[***]	.03
Disclosure	3.70[a] (0.08)	3.37[bc] (0.09)	3.83[a] (0.07)	3.62[ab] (0.06)	3.38[bc] (0.08)	3.00[c] (0.11)	10.23[***]	.05
Secrecy	2.10[a] (0.09)	2.25[ab] (0.10)	2.11[a] (0.09)	2.37[ab] (0.07)	2.19[ab] (0.09)	2.51[b] (0.13)	2.59[*]	.01
Self-esteem	4.08[a] (0.08)	4.09[a] (0.09)	3.93[ab] (0.07)	3.63[bc] (0.06)	3.78[abc] (0.08)	3.50[c] (0.11)	8.35[***]	.04

Note. A cluster mean is different from another cluster mean if the superscripts are different. Standard deviations are in parentheses. [*] $p < .05$; [**] $p < .01$; [***] $p < .001$.

significantly different from Troubled Diffusion who scored lowest, although not significantly different from Foreclosure or Carefree Diffusion. Moratorium fell in the middle and did not differ significantly from Achievement and Searching Moratorium nor from Foreclosure and Carefree Diffusion. On secrecy, Achievement and Searching Moratorium scored lowest and significantly different from Troubled Diffusion who scored highest. Foreclosure, Moratorium, and Carefree Diffusion scored in the middle, and were not significantly different from either Achievement and Searching Moratorium nor Troubled Diffusion. Lastly, on self-esteem, Achievement, Foreclosure, and Searching Moratorium scored highest and significantly different from Troubled Diffusion who scored lowest.

Discussion

One of the main challenges throughout adolescence is developing a coherent sense of identity, and in doing so, deciding upon a number of choices regarding one's future life path. Using a large sample of Swiss adolescents in their last year of mandatory schooling, we tested whether we could distinguish different profiles based on how adolescents tackled these identity issues, and we examined whether these identity profiles differed in terms of self-esteem, general family climate, and family communication. We found evidence for six identity clusters, generally converging with previous research (Crocetti, Rubini, Luyckx, et al., 2008; Luyckx, Schwartz, Berzonsky, et al., 2008; Skhirtladze et al., 2016). In addition, these clusters differed in terms of self-esteem, the extent to which adolescents perceived their family environment as warm, supportive, and controlling, as well as the extent to which parents solicit and adolescents keep secret and disclose

information.

In support of our first objective, the six-process model of identity allowed us to extract Marcia's four original identity statuses as well as a second type of diffusion, in line with the dual-cycle model (Luyckx, Schwartz, Berzonsky, et al., 2008), and a second type of moratorium, in line with the three-factor model (Crocetti, Rubini, & Meeus, 2008). First, our results revealed a distinction between a troubled form and a carefree form of diffusion. These two diffusion statuses differ mainly in terms of the way adolescents deal with identity issues: carefree-diffused adolescents seem to be truly uninterested in identity work (as reflected in their generally low scores on all identity dimensions), whereas their troubled-diffused counterparts attempt to explore and are seemingly trying to tackle identity issues. However, worry and rumination seem to take over, hindering their ability to advance in the identity formation process (Schwartz et al., 2015). Second, our results also revealed both the dark and bright sides of moratorium (i.e., Moratorium and Searching Moratorium, respectively). Compared to the Moratorium status, characterized by the absence of commitments, Searching Moratorium is characterized by the presence of commitments and the exploration of potential new identity alternatives (Crocetti & Meeus, 2015). Given that the Moratorium status is characterized by high levels of ruminative exploration, and in line with Luyckx and colleagues (2008), we will refer to this status as Ruminative Moratorium from here on.

Unlike previous studies with emerging adults, in our mid-adolescent population we identified adolescents in six clusters evidencing what has been found separately for the dual-cycle and three-factor models. Indeed, two recent studies using samples of emerging adults empirically derived identity clusters using a six-process model of identity, though they obtained slightly different results: Skhirtladze and colleagues (2016) derived one

type of moratorium and an undifferentiated cluster, whereas Mannerström and colleagues (2017) derived one form of moratorium but three forms of diffusion. Furthermore, in the present study an undifferentiated status was not observed, which in other studies has often been found to contain a large proportion of individuals (e.g., Skhirtladze et al., 2016). This slight variation of personal identity statuses may be a result of cultural differences between Switzerland on the one hand, and Finland and Georgia, on the other. Cultural specificity of personal identity statuses has been reported by Zimmermann and colleagues (2015) who looked at French and Swiss adolescents, finding differences in the degree to which French and Swiss adolescents engage in certain identity processes within each identity status. Furthermore, our findings may also be a result of our more specific focus on mid-adolescence. In fact, almost half (n= 506) of our mid-adolescent population was best described by a moratorium status (Ruminative and Searching Moratorium), which is in line with previous work finding that early- to middle-adolescence appears to be the period most characterized by adolescents in the moratorium statuses as compared to late-adolescence (Meeus et al., 2010). Moreover, the present study took place during a crucial time point in the lives of these Swiss adolescents (transitioning out of mandatory education), in which identity-related questions are at the forefront.

Further, the six-process model of identity allows us to gain better insight into the moratoria statuses. Whereas prior to the explicit definition of reconsideration of commitment in the dual-cycle model, the three-factor model defined Ruminative Moratorium as being high in reconsideration of commitment (and low in in-depth exploration and commitment), the dual-cycle model defined Ruminative Moratorium as being high in ruminative exploration (and high on exploration in breadth and in-depth, but low on commitment and identification with commitment). When the six-process

model of identity is used, what is observed is that the process that is by far predominant for adolescents in the Ruminative Moratorium status is ruminative exploration and not reconsideration of commitment. By contrast, Searching Moratorium is mainly characterized by high levels of reconsideration and high levels on the commitment dimensions. Thus, the Searching Moratorium status appears to be a true reflection of the iterations at the heart of identity formation, representing a transition between having strong commitments and a period of reconsideration and uncertainty about these commitments. This is in line with Meeus, Crocetti, and colleagues' (Crocetti, Rubini, Luyckx, et al., 2008) original conceptualization of the dimension of reconsideration of commitment which aimed at capturing this dynamic aspect of identity formation, a dimension on which adolescents in Searching Moratorium score particularly high. In fact, Waterman (2015), in a critique of process-oriented identity models, proposed an interpretation for the coexistence of exploration and commitment within a single status. One of his claims was that the coexistence of commitment and exploration would be present in individuals transitioning out of a committed status (for example, Achievement) into a non-committed status (for example, Moratorium). In line with the proposition of Waterman (2015), we believe that this cluster may be more clearly labeled as *Reconsidering Achievement*, and will be referred to as such from here on in the present study. Labeling this status as Reconsidering Achievement would more accurately reflect the once strong commitments held by these adolescents that are now put into question.

Our second objective was to investigate the differing profiles of adolescents in each identity status in terms of adolescent self-esteem, perceived family climate, and family communication. In line with our expectations, Achievement and Foreclosure scored highest on self-esteem and Troubled Diffusion lowest, with Reconsidering Achievement,

Ruminative Moratorium, and Carefree Diffusion falling in between. In regard to perceived family climate, Achievement and Reconsidering Achievement demonstrated profiles scoring highest on autonomy support and parental responsiveness, while Troubled Diffusion scored lowest. This is in line with previous findings based on identity dimensions (Luyckx, Soenens, Goossens, et al., 2007; Luyckx, Soenens, Vansteenkiste, et al., 2007) in which higher levels of commitment were associated with higher levels of support and higher levels of psychological control were associated with lower levels of commitment. Surprisingly, however, Reconsidering Achievement also scored highest on psychological control (along with Carefree Diffusion), whereas Achievement scored lowest. It appears that the general family climate for adolescents in the Achievement status is one high in support and low in control, whereas adolescents in a Troubled Diffusion status are characterized by low levels of support and high levels of control. Surprisingly, adolescents in the Reconsidering Achievement status seem to experience their environment as simultaneously supportive and controlling. This can be distinguished from the Ruminative Moratorium status who experience their environment as high in psychological control, but low in autonomy support and responsiveness.

Family communication also differed between statuses. That is, adolescents in the Reconsidering Achievement status once again demonstrated a similar profile to the Achievement status in terms of adolescent information management, disclosing the most and keeping the least amount of secrets from their parents. On the other hand, Troubled Diffusion disclosed the least and kept the greatest amounts of secrets. Interestingly, however, it was the parents of the Reconsidering Achievement adolescents that solicited information the most from their adolescents, whereas parents of adolescents in the Troubled Diffusion status sought information from their adolescents the least. Thus, the

Troubled Diffusion status appears to be characterized by the poorest communication patterns, whereas Achievement and Reconsidering Achievement appears to be characterized by two-directional communication (i.e., parents asking questions and adolescents disclosing information).

This pattern of results is of particular interest as it lends further insight into the complexity of the Reconsidering Achievement status and how it differentiates from Ruminative Moratorium. In certain regards, Reconsidering Achievement demonstrates a similar profile to Achievement being high in autonomy support, responsiveness, and two-way family communication, on the other hand, Reconsidering Achievement also demonstrates high levels of psychological control as does Ruminative Moratorium. Thus, the Reconsidering Achievement status may reflect a time of uncertainty where adolescents want to discuss their hesitations with family members and seek out of further information. Furthermore, this period of uncertainty may not only be stressful for adolescents, but also for parents. Indeed, when adolescents are reconsidering certain previously made commitments, parents may worry and respond through higher levels of psychological control and solicitation to try and get their child "back-on-track" (Hoover-Dempsey & Sandler, 2016).

Limitations and Future Directions

The findings of the present study should be interpreted in light of certain limitations. First, given that the present study was conducted in the French-speaking part of Switzerland, it is unclear to what extent the results can be generalized to adolescents who live in other European countries or in other regions of the world. Second, given the single-informant methodology employed, reports on family climate and family

communication remain the subjective experiences of the adolescent participants. Third, the present study does not allow us to draw conclusions concerning directionality of effect between family climate and family communication with adolescent identity status. The present study allows for the characterization of adolescents within certain identity statuses. Past research has supported reciprocal relationships between family climate and adolescent personal identity formation (Crocetti et al., 2017; Luyckx, Soenens, Vansteenkiste, et al., 2007) and thus bidirectional effects are very likely to be found. Therefore, it would be of interest for future research to explore whether family communication longitudinally relates to identity formation in adolescence, especially in terms of whether certain identity-related processes elicit particular patterns of family communication or whether, in the reverse direction, patterns of communication better prepare adolescents to tackle identity-related issues. Furthermore, the cross-sectional nature of the present study does not allow for conclusions to be drawn in regard to transitions between statuses and more particularly the transition between Reconsidering Achievement and the other identity statuses (Meeus et al., 2010). Future research should be conducted using the identity statuses derived from the six-process model in order to explore the question of transitions between identity statuses over time. Lastly, we hope that the present study can serve as a starting point for the integration of the two prominent process-oriented identity models. In that respect, we believe that future research should also focus on the development of sufficiently reliable subscales for exploration in depth and reconsideration of commitment subscales, given their low reliability in the present as well as in previous studies (e.g., Zimmermann et al., 2015).

Conclusion

Combining elements of the two dominant models of personal identity allowed for the empirical derivation of two types of moratorium (i.e., Ruminative Moratorium and Searching Moratorium) originally derived from the three-factor model as well as two types of diffusion, originally derived from the dual-cycle model (i.e., Troubled Diffusion and Carefree Diffusion), along with Marcia's Achievement and Foreclosure statuses. These clusters were in turn characterized by unique profiles in terms of adolescent self-esteem, perceived family climate and family communication. Of particular interest, the Reconsidering Achievement status demonstrated a distinct pattern of family communication in terms of both adolescent information-sharing and parental information-seeking as well as a general family climate characterized by high levels of both support and psychological control. These results add to our understanding of how family environments differ based on personal identity statuses of adolescents.

Chapter 3

Trajectories of perceived parenting across an educational transition: Associations with psychosocial adjustment and identity development among Swiss adolescents[5]

Educational transitions involve a number of changes for adolescents and can be challenging for adolescents and parents alike. The present study was designed to gain a better understanding as to how adolescents' perceptions of parenting evolves across a major educational transition and how the parenting perceived across this transition may facilitate adolescents' psychosocial adjustment and identity formation. Swiss adolescents (N=483, M_{age} = 14.96 years old; 64.6% female) in their last year of mandatory secondary school completed self-report measures at two semi-annual time points both prior to and following their educational transition. Adolescents reported on their perceptions of their parents' autonomy support and psychological control as well as their self-esteem, risk-taking behaviors, and identity processes. Group-based trajectory analyses identified three parenting trajectory classes (i.e., Highly Supportive Parenting, Decreasing Supportive Parenting, Stable Controlling Parenting), three psychosocial adjustment trajectory classes (i.e., Low Self-Esteem/Low Risk-Taking, High Self-Esteem/Low Risk-Taking, Moderate Self-Esteem/Increasing Risk-Taking) and four identity trajectory classes (i.e., Lost

[5] **Albert Sznitman, G**., Van Petegem, S., Antonietti, J.-P., Baudat, S., Schwartz, S. J., & Zimmermann, G. *(in revision)*. Trajectories of perceived parenting across an educational transition: Assocaitons with psychosocial adjusmtent and idenitty development among Swiss adolescents. *Developmental Psychology.*

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Searchers, Guardians, Pathmakers, Successful Searchers). These solutions support the contention that adolescents are likely to experience academic transitions differently, whether in terms of their parent-adolescent relationship, their psychosocial adjustment, or their identity. Furthermore, parenting trajectory classes were associated with specific identity and psychosocial adjustment classes. Notably, Highly Supportive Parenting was associated with the High Self-Esteem/Low Risk-Taking class and the Pathmaker identity class, whereas Stable Controlling Parenting was most strongly associated with the Low Self-Esteem/Low Risk-Taking class and the Lost Searcher identity class. These findings highlight the importance of autonomy-supportive parenting for adolescent development during educational transitions.

Introduction

It is well established that parents play a fundamental role in supporting the optimal development of their children throughout adolescence (Steinberg & Silk, 2002). Although adolescents increasingly seek to assert their independence and take on more responsibility during this maturation process, parents remain an essential source of support (Duineveld et al., 2017; Steinberg & Silk, 2002). Such support may be of particular importance for adolescents during educational transitions, such as the transition from general education (e.g., high school) to tertiary education (e.g., university, vocational school) or from general education to the professional world (Zarett & Eccles, 2006). Given the importance of this academic transition and the number of changes occurring simultaneously, parent-adolescent relationships may undergo certain changes, with some parents adjusting more seamlessly than others to the new needs of their adolescent child (Steinberg & Silk, 2002).

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Developmentally, adolescents of high school age are also confronted with figuring out who they are and forming an identity of their own (Erikson, 1968; Flum & Kaplan, 2012). Indeed, academic transitional moments may act as a catalyst for pushing adolescents to take a deeper look at themselves, whether they are happy with the path they are on, who they are becoming, and/or whether they would like to reorient the direction they are taking (Crocetti, Rubini, & Meeus, 2008). Given that these academic transitions push adolescents to reflect on issues they may not consider otherwise, these transitions can prompt changes in how adolescents feel about themselves, potentially eliciting self-doubt and facilitating certain risk behaviors (Eccles et al., 1993; Schwartz, Mason, Pantin, Wang, et al., 2009). In this light, the way parents accompany their adolescents along this transition may have important implications for their child's overall adjustment and healthy identity development (Ryan & Deci, 2017). Accordingly, the goal of the current study was to examine how parenting is perceived by adolescents over the year prior to, and following, a major academic transition, and whether parenting would serve as a resource for adolescents vis-à-vis their psychosocial adjustment and identity development.

The Swiss Education System and the Impact of Academic Transitions on Self-Esteem and Risk-Taking Behaviors

School transitions can represent particularly vulnerable moments for adolescents, with youth often confronted with large changes in their social environment, school structure, and day-to-day life (Duineveld et al., 2017; Zarett & Eccles, 2006). Not only do adolescents need to balance new academic demands and responsibilities, but many struggle with concerns regarding their new peer network (Zarett & Eccles, 2006). In the

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French-speaking part of Switzerland, all youth attend a 3-year obligatory secondary school from ages 12/13 to ages 14/15. Obligatory secondary school is divided into two streams, with one leading to vocational studies and the other leading to gymnasium/senior high school studies (ultimately allows access to university studies). The decision as to which stream to follow is reached during the last year of primary school when youth are 11-12 years old (Nakamura et al., 2007). Thus, unlike youth in many other countries, Swiss adolescents must already make important profession-related decisions at a relatively young age.

These stressful educational transitions can evoke changes in adjustment for adolescents, including vis-à-vis their self-esteem, with self-esteem being defined as a general evaluation of one's self-worth (Grolnick et al., 2000; Harter, 1988). Although a large body of evidence has suggested that many young people become more negative about themselves during these transition, studies investigating self-esteem over school transitions have not been conclusive with some reporting increases (Proctor & Choi, 1994), others reporting decreases (e.g., Wigfield et al., 1991), and still others reporting stable self-esteem during the transition (e.g., Hirsch & Rapkin, 1987). In this regard, Zimmerman, Copeland, Shope, and Dielman (1997) identified four self-esteem trajectories in early to middle adolescents (consistently high, moderate and rising, decreasing, and consistently low) suggesting that adolescents follow different self-esteem trajectories.

Similarly, school transitions may also act as a precipitating factor for risk taking-behaviors (Igra & Irwin, 1996). Risk-taking behaviors include a number of potentially health-damaging behaviors that increase the chance of illness, injury, or death, including for example, substance use, risky sexual behaviors, and impaired driving (Igra & Irwin,

1996). The majority of studies investigating risk-taking during school transitions have focused on American emerging adults transitioning from high school to college/university (e.g., Fromme et al., 2008). In general, these studies found risk-taking behaviors, especially those associated with alcohol and drug use, to increase following academic transitions (Zimmerman et al., 1997). Nevertheless, the American high school to college/university transition is different from Swiss middle adolescents transitioning out of obligatory secondary school at age 14/15. While this may be true, academic transitions may also cause changes in risk-taking behaviors among younger adolescents, given their increased desire for independence, exploration, and freedom (Steinberg & Silk, 2002). Although some adolescents may demonstrate larger increases in alcohol use, others may not (Zimmerman et al., 1997). Thus, overall trends in risk-taking may not adequately characterize how different adolescents experience academic transitions at the individual level (Keijsers & van Roekel, 2018). For this reason, it is necessary to use person-centered approaches to capture meaningful differences among adolescents. Furthermore, as with self-esteem, increases in risk-taking behaviors may be mitigated by environmental factors such as a supportive family environment (Igra & Irwin, 1996). Complicating matters, all of these changes occurring during school transitions are intertwined with the construction of their personal identity.

Identity Development

Processes of Personal Identity Formation.

Personal identity refers to the amalgamation of one's goals, values, and beliefs in a number of life domains, including career and education (Erikson, 1968). In essence, personal identity involves how one defines oneself. Thus, all education related decisions

contribute to the formation of adolescents' personal identity. For example, an adolescent may think to herself "I never thought I wanted to go to university, but maybe this is what I would like to do". This would then entail a certain reworking of her identity. In this sense, decisions may either be in line with the identity they are forming or alternatively require certain adjustments to be made (Crocetti, Rubini, & Meeus, 2008). In fact, the school environment may directly stimulate further identity questioning by helping youth to rethink their career plans and other aspects of their identities (Flum & Kaplan, 2012; Lannegrand-Willems & Bosma, 2006).

To capture the dynamic nature of identity formation, recent models of identity have proposed using a process-based approach to assess the underlying processes at play in adolescent identity construction (Crocetti & Meeus, 2015). One such model, based on the work of Erikson and Marcia (1966), is the a five-dimensional model proposed by Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008), consisting of three types of exploration (*exploration in breadth*, *exploration in depth*, and *ruminative exploration*) and two types of commitment (*commitment making* and *identification with commitment*). *Exploration in breadth* refers to a general exploration of identity alternatives, whereas *exploration in depth* refers to a thorough exploration of commitments that one has already enacted, and *ruminative exploration* refers to a maladaptive type of exploration characterized by indecisiveness and indecision in which one repeatedly mulls over different identity alternatives. Further, whereas *commitment making* refers to the degree to which adolescents have made choices, *identification with commitment* refers to the extent to which one identifies with and has integrated identity commitments into one's sense of self. More recently, a sixth process originally conceptualized by Meeus and Crocetti (Crocetti, 2017; Crocetti,

Rubini, & Meeus, 2008) has been added to this model, namely *reconsideration of commitment* (Albert Sznitman, Zimmermann, et al., 2019b; Zimmermann et al., 2015). Reconsideration of commitment refers to rethinking previously formed commitments in favor of other alternatives and may be indicative of willingness to change a commitment.

Person-Centered and Profile-Based Approaches to Identity Formation.

Prior research has often utilized person-centered approaches to identify profiles of identity formation in order to ascertain different ways in which adolescents approach the task of identity development. Indeed, the principal assumption of person-centered approaches is that each individual is unique, but that these unique individuals can be summarized by a finite number of evolutions identified by patterns that are shared within a specific subgroup (Crocetti & Meeus, 2015). Studies using the Luyckx model have typically yielded six identity statuses/profiles: achievement, foreclosure, searching moratorium, ruminative moratorium, troubled diffusion, and carefree diffusion (e.g., Albert Sznitman, Zimmermann, et al., 2019b; Luyckx, Schwartz, Berzonsky, et al., 2008; Skhirtladze et al., 2016). The achievement status (commitment following healthy exploration) is often regarded as the most well-adjusted status, followed by the foreclosure status, with adolescents in both statuses demonstrating high levels of self-esteem and low levels of risk taking behaviors (Schwartz, Beyers, et al., 2011). Adolescents in the searching moratorium status (presence of both commitment and exploration) demonstrate relatively moderate levels of self-esteem and risk taking (Crocetti, Rubini, Luyckx, et al., 2008; Schwartz, Beyers, et al., 2011). Adolescents in the ruminative moratorium status (exploration, including maladaptive exploration, and without commitment) as well as the troubled diffusion status (presence of only

maladaptive exploration) for their part demonstrate lower levels of self-esteem and high levels of internalizing and risk taking behaviors (Crocetti, Rubini, Luyckx, et al., 2008; Luyckx, Schwartz, Berzonsky, et al., 2008). Lastly, adolescents in the carefree diffusion status (lack of exploration and commitment) demonstrate similar outcomes to those in the troubled diffusion, although they seem to fare slightly better in regard to self-esteem (Crocetti et al., 2011).

To fully understand identity formation as a developmental process, it is important to move beyond cross-sectional studies and to examine how identity evolves over time. Far less research has looked at how identity processes develop longitudinally. In one such study, Luyckx, Schwartz, Goossens, Soenens, and Beyers (2008) derived identity trajectories among university students, based on four identity dimensions (exploration in breadth, exploration in depth, commitment making, and identification with commitment). These authors identified four developmental trajectories roughly equivalent to certain identity statuses. Pathmakers (similar to achievement) are active in forming, evaluating, and strengthening their commitments, demonstrating high increasing scores on all four identity dimensions. Searchers (equivalent to searching moratorium) were especially engaged in exploring potential commitments, providing high scores on exploration dimensions and low scores on commitment dimensions, with exploration in breadth increasing over time. Guardians (similar to foreclosure) were relatively firm in their commitments and closed to exploration, characterized by stable moderate scores on all identity dimensions. Lastly, a novel developmental pathway was identified – consolidators (a subtype of foreclosure), who provided high and increasing scores on commitment making over time, low stable scores on exploration in breadth, and high stable scores on exploration in depth and identification with commitment. Surprisingly,

Luyckx and colleagues did not identify a trajectory class similar to the diffusion status (Drifters). Although the results of that study provide great insight into the potential developmental pathways possible in regard to identity development in university students, Luyckx and colleagues (2011) underline the need for future studies to investigate similar trajectories in younger adolescents. Furthermore, given that academic transitions may stimulate identity related work, it seems imperative to examine identity trajectories across such transitions and their immediate parenting context that may support adolescents' development during this time.

Parenting as a Resource During Academic Transitions

Parenting and adolescent development are tightly intertwined. In general, warm and supportive parenting is associated with lower parent-adolescent conflict, fewer adolescent internalizing problems, and higher academic achievement (for a review see Smetana & Rote, 2019). With regard to academic transitions, one specific way in which parents can act as a resource to their adolescent children is in supporting their adolescent's need for autonomy (Grolnick et al., 2000). Autonomy support refers to the degree to which parents encourage their children to act upon personally endorsed values and interests (Ryan et al., 2006). In contrast, psychological control hampers adolescents' autonomy (Barber, 1996; Soenens & Vansteenkiste, 2010). When parents act in an autonomy supportive way, children are more in touch with their inner self, leading to feelings of authenticity, and contributing to overall well-being (Soenens et al., 2018). However, when parents act in a psychologically controlling way, this thwarts a child's need for autonomy and may result in feelings of being controlled, inner conflict, and lack of competence (Ryan et al., 2016). A large body of research has evidenced that autonomy

support relates to higher well-being and healthy identity development (Luyckx et al., 2009), whereas psychological control has been related to more internalizing and externalizing problems (Soenens & Vansteenkiste, 2010), increased risk-taking behaviors (Fischer et al., 2007), and higher levels of stress (Bartholomew et al., 2011).

Although a vast amount of research has examined the relationship between autonomy-supportive parenting and outcomes in children and adolescents (e.g., Luyckx et al., 2009; Van Petegem et al., 2015), fewer studies have investigated trajectories of perceived autonomy support and psychological control during adolescence. In two such studies, three trajectories of perceived autonomy support (high increasing, moderate stable, and low decreasing; Van Petegem et al., 2017) and two trajectories of psychological control (low increasing, moderate stable/decreasing; Rogers et al., 2020) were identified. Together, these studies suggest that parents follow different trajectories in terms of their support of their children's autonomy needs. More specifically, some parents may become more autonomy supportive, others less autonomy supportive or more psychologically controlling, and still others may remain stable.

With regard to academic transitions, however, no study to date has used an analytic approach allowing for the identification of parenting trajectories based on both autonomy-supportive parenting and the two types of psychologically controlling parenting. Instead, several studies have investigated how perceived parenting relates in general to psychosocial adjustment and identity development during academic transitions, suggesting that maintaining an autonomy-supportive parenting style can help children during these stressful school transitions (e.g., Duineveld et al., 2017; Grolnick et al., 2000) as well as encourage healthy identity development (e.g., Luyckx et al., 2009; Soenens, Berzonsky, et al., 2005). When parents are autonomy-supportive, they allow

their adolescents to explore personally endorsed interests, ultimately helping them to fulfill their basic need for autonomy and to develop a more integrated sense of identity (Luyckx et al., 2009). However, parents who act in a psychologically controlling manner frustrate their adolescent's need for autonomy, potentially derailing their adolescent's ability to construct a coherent identity. Previous longitudinal research has highlighted the importance of an autonomy-supportive parenting style versus a psychologically controlling parenting style for optimal identity development (Beyers & Goossens, 2008; Luyckx, Soenens, Vansteenkiste, et al., 2007). Taken together, results from these studies suggest that not all parents' parenting will evolve in the same manner, thus highlighting the utility of person-centered analytic approaches in identifying developmentally different subgroups.

The Present Study

Not all adolescents experience academic transitions in the same way. Thus, using a person-centered approach, the first aim of the present study was to examine how perceived parenting, psychosocial adjustment, and identity evolve over a major academic transition in the lives of Swiss adolescents. Consistent with the theoretical background, we proposed several hypotheses.

First, with regard to perceived parenting typologies, in line with previous findings (Rogers et al., 2020; Van Petegem et al., 2017) we expected to identify three trajectory classes: (1) Moderate Stable Autonomy Support/ Low Stable Psychological Control), (2) Low Decreasing Autonomy Support/ Moderate Increasing Psychological Control, and (3) High Increasing Autonomy Support/ Low Decreasing Psychological Control.

Second, with regard to psychosocial adjustment we expected to identify four

adjustment trajectories: (1) High Stable Self-Esteem / Low Stable Risk-Taking, (2) Low Stable Self-esteem /High Stable Risk-Taking/, (3) Moderate Increasing Self-Esteem/ Moderate Decreasing Risk-Taking, and (4) Moderate Decreasing Self-Esteem/Moderate Increasing Risk-Taking (Zimmerman et al., 1997).

Third, with regard to identity, we expected to identify at least four identity trajectories: Pathmakers, Guardians, Searchers, and Drifters (Luyckx, Schwartz, Goossens, et al., 2008). We expected Pathmakers to demonstrate high increasing scores on commitment dimensions, high stable scores on exploration in breadth and exploration in depth, and low stable scores on ruminative exploration and reconsideration of commitment. Next, we expected Guardians to demonstrate high increasing scores on commitment dimensions, low stable scores on exploration in breadth and in depth, and low stable scores on ruminative exploration and reconsideration of commitment. We expected Searchers to be characterized by moderate and increasing scores on exploration in breadth and exploration in depth, with low stable/increasing scores on the commitment dimensions. Lastly, Drifters were expected to demonstrate low scores on all identity processes.

The second objective of the present study was to examine how trajectories of perceived parenting would relate to trajectories of both psychosocial adjustment and identity. We expected parenting trajectories characterized by high levels of perceived autonomy support and low levels of perceived psychological control to be associated with psychosocial adjustment trajectories characterized by moderate to high self-esteem and low risk-taking as well as a more mature identity trajectories. Conversely, we expected parenting trajectories characterized by low perceived autonomy support and high perceived psychological control to be associated with psychosocial adjustment

trajectories characterized by lower self-esteem and higher risk taking as well as by the least mature identity trajectories.

Method

Participants and Missing Data

The sample for the present study consisted of 483 adolescents (64.6% female) in their last year of mandatory secondary school (i.e., age 14/15) who were participating in a broader longitudinal study examining family dynamics and adolescent development. This study was conducted in accordance with the ethical code of the canton of Vaud. Adolescents were asked to complete self-report questionnaires at four time-points (i.e., T1, T2, T3, and T4), separated by six-month intervals. At T1, the mean participant age was 14.96 years ($SD = 0.56$). Most adolescents were of Swiss nationality (77.9%) and came from intact two-parent (76.7%) or divorced families (22.1%). The remaining adolescents reported having one deceased parent (0.4%), adoptive parents (0.4%), or other family constellations (0.4%). In terms of socio-economic status, the majority of adolescents reported that their families were of average financial standing relative to other families (59.6%). A very small proportion (0.6%) felt they were very below average, 6.8% slightly below average, 29.4% above average, and 3.6% very above average. Regarding educational tracks, approximately two thirds (67.6%) and one third (32.4%) of adolescents followed academic and vocational/technical streams, respectively.

In terms of attrition, 1096 students participated initially at T1, with attrition rates between waves as follows: T1 to T2 = 3.83%, T2 to T3 = 60.0%, and T3 to T4 = 21.3%. Such attrition rates are comparable to other transitional samples (Duineveld et al., 2017),

with the largest drop in participation occurring between when students participated in class (T2) to when students were no longer in obligatory school (T3). Due to the longitudinal nature of the study and the timing of the school transition between T2 and T3, adolescents were included in the present study if they had completed questionnaires at either T1 or T2 (i.e., before academic transition) and at either T3 or T4 (i.e., after academic transition). In total, of the 483 adolescents fulfilling these criteria, 253 adolescents (52.4%) participated at all four waves, 203 adolescents (42.0%) participated at three waves, and 27 adolescents (5.6%) participated at two waves. Overall, 14.3% of data were missing. We compared participants with and without complete data using Little's (1988) Missing Completely at Random test (MCAR), which indicated that data were likely to be missing at random, χ^2/df =1.13, p = .003. To include cases with missing data, we used full information maximum likelihood (FIML), which uses all available information to estimate parameters (Schafer & Graham, 2002).

Procedure

Adolescents were recruited from 10 public schools across the French-speaking Swiss canton of Vaud in accordance with the canton's School and Youth Department. Before the study began, passive parental consent was obtained through an informational letter sent to parents by the participating schools. Parents were given the opportunity to opt their child out of the study by completing and returning this form. The first two waves of data were collected in class in the presence of trained research assistants. At the third and fourth waves, questionnaires were mailed out to adolescents with a pre-stamped envelope for return. Upon receipt of completed questionnaires, adolescents were mailed out 15 CHF (US$15) gift certificates to local stores.

Measures

All questionnaires were administered in French. When French translations were not already available, we employed a back translation procedure in accordance with the International Test Commission (Hambleton, 2001). Unless otherwise specified, participants responded to each of the following items on a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). All measures were administered at all four waves.

Autonomy-supportive parenting. Adolescents reported on the extent to which they felt that their parents supported their volitional functioning using the seven-item autonomy support (AS) subscale from the Perceptions of Parents Scale (Grolnick et al., 1991). A sample item is "My parents help me to choose my own direction". Previous studies indicated adequate psychometric properties of the AS subscale (e.g., Soenens et al., 2007), which also provided scores with acceptable reliability in the present study, with McDonald omegas ranging from .71 to .80 across study waves.

Psychologically controlling parenting. Perceived parental psychological control was assessed using the 17-item Dependency-Oriented and Achievement-Oriented Psychological Control Scale (Mantzouranis et al., 2012; Soenens et al., 2010). This scale is composed of two subscales: (1) dependency oriented psychological control (eight items), assessing the extent to which adolescents feel their parents use psychological control in an effort to keep them emotionally and/or psychically close, and (2) achievement-oriented psychological control (seven items), assessing the extent to which

adolescents feel that their parents provide them with conditional positive regard based on their compliance with parental standards for achievement. A sample item for dependency-oriented psychological control reads "My parents are only happy with me if I rely exclusively on them for advice" and for achievement-oriented psychological control reads "My parents are less friendly with me if I perform less than perfectly". Both subscales provided scores with adequate internal consistency at all study waves, with McDonald omegas for dependency-oriented psychological control ranging from .72 to .79 and ranging from .90 to .94for achievement-oriented psychological control. These reliability coefficients are similar to those previous reported (Mantzouranis et al., 2012).

Self-esteem. Adolescents reported on their general feelings of self-worth using the global self-esteem subscale of the Self-Perception Profile for Adolescents (SPPA; Harter, 1988). The SPPA provided scores with satisfactory internal consistency, with omegas ranging from .77 to .88 across the four study time points. These coefficients are similar to those previously reported with adolescent populations (e.g., Van Petegem et al., 2015).

Risk behaviors. Adolescents were asked to report on the frequency with which they engaged in a variety of risky behaviors over the last six months using the 30-item Risk Involvement and Perception Scale-Revised (RIPS-R; Zimmermann, 2010). Risk behaviors included the broad categories of alcohol and drug use (e.g., "Drinking alcoholic beverages"), unsafe sexual behaviors (e.g., "Having unprotected sex"), physical aggression (e.g., "Engaging in physical fights"), rule breaking (e.g., "Stealing from a store"), and social aggression (e.g., "Insulting people on the internet"). The response scale

consisted of five choices: 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), and 5 (*every day*). Past research has demonstrated adequate psychometric properties for scores generated by the RIPS-R (Zimmermann, 2010). In the present study, the RIPS-R also demonstrated scores with satisfactory internal reliability, with omegas ranging from .76 to .90 across waves.

Identity. Personal identity dimensions were assessed using the Dimensions of Identity Development Scale (DIDS; Luyckx, Goossens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008; Zimmermann et al., 2015). The questionnaire contains 25 items and assesses six dimensions of personal identity formation. These six dimensions, as well as sample items and McDonald's omegas, are as follows: exploration in breadth (5 items; e.g., "I think actively about different directions I might take in my life"; .78 to .87), commitment making (5 items; "I have decided on the direction I want to follow in my life; .88 to .92), identification with commitment (5 items; e.g., "I sense that the direction I want to take in my life will really suit me"; .84 to .90), ruminative exploration (5 items; e.g., "I keep wondering which direction my life has to take"; .78 to .85), exploration in depth (2 items; e.g., "I keep wondering which direction my life has to take"; inter-item correlation .30 to .40), and reconsideration of commitment (3 items; e.g., "I think about whether my future plans match what I really want"; .61- .67). Internal consistencies were comparable to other studies (Zimmermann et al., 2015).

Sociodemographic information. Adolescents provided the following sociodemographic information: Age (birthdate), gender (male/female), educational track (university or apprenticeship bound), nationality, family constellation (parents

married/divorced/separated/ other), number of siblings, languages spoken at home, and family financial situation relative to other families (very below average/ below average/ average/ above average/ very above average).

Plan of Analysis

Analyses conducted for the present study proceeded in two phases. In the first phase, we carried out our preliminary analyses. We first estimated measurement models and conducted invariance analyses to ensure the adequacy of our measures. We then examined within-time correlations between perceived parenting and psychosocial adjustment as well as between perceived parenting and identity dimensions, to gain a better understanding as to how the study constructs interrelate at each measurement wave. Next, we investigated rank-order stabilities by computing autocorrelations between adjacent measurement waves for each of the study variables. We then used repeated measures analysis of variance to estimate mean-level change in study variables as well as gender, time, and time x gender effects.

Next, we conducted our primary analyses to identify groups of adolescents following heterogenous developmental trajectories. Using group-based trajectory modeling (GBTM), a specialized form of finite mixture modeling (see Nagin, 2005; Nagin et al., 2018), trajectories of developmental change were modeled as a function of time and represent mean development over time within each latent class (van der Nest et al., 2020). Three separate sets of GBTM models were conducted to derive trajectory classes for perceived parenting, psychosocial adjustment, and identity development. Several solutions were tested with different numbers of classes. The final number of classes was determined based on a number of considerations. First, the best fitting solution should

have a relatively low Bayesian Information Criterion (BIC). Second, the best fitting solution would need to demonstrate confident case classification with entropy values > .80 (Grimm et al., 2017). Third, we considered the average posterior probability of assignment (APPA) and the odds of correct classification (OCC; Klijn et al., 2017). The APPA estimates the assignment probability to each class for each individual, which should ideally be equal to 1, with values > .70 considered satisfactory (Nagin, 2005). The OCC estimates the ratio of the odds of correctly classifying individuals as compared to randomly assigning individuals to classes. For each class, this ratio should be > 5 (Nagin, 2005). Fourth, class sizes needed to be statistically robust (Hill et al., 2000). Finally, classes needed to be theoretically meaningful and not simply slight variations on a common theme (Nagin et al., 2018).

As a final step, we examined whether adolescents' membership in a given parenting trajectory class would render them more likely to belong to a specific identity and adjustment trajectory class. Thus, chi-square analyses were conducted to determine the degree of overlap between parenting classes and identity classes as well as between parenting classes and adolescent adjustment classes. To determine the degree of dependence between classes, we used adjusted standardized residuals, with elevated residuals (i.e. > |2.00|) suggesting an association between the two classes (Beh, 2012; Haberman, 1973).

Results

Measurement models, as well as invariance analyses, were conducted on all study variables and can be found in the supplementary materials along with a comprehensive zero-order correlation matrix. In all cases, measurement models fit the data well

Table 3.1

Concurrent relations between perceived parenting, psychosocial adjustment, and identity from Time 1 through Time 4

Dimensions	Perceived parenting											
	Autonomy support				Dependency oriented control				Achievement oriented control			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Commitment making	.19**	.08	.12*	.12*	-.05	-.09*	-.08	-.06	-.07	-.05	-.06	-.04
Exploration in breadth	.10*	.16**	.11*	.17**	.07	-.02	.03	.04	-.05	-.04	-.04	-.05
Identification with commitment	.16**	.14	.23**	.18**	-.05	-.09	-.13**	-.06	-.02	-.06	-.10*	-.05
Exploration in depth	.30**	.18**	.22**	.26**	-.10*	-.11*	-.12**	-.07	-.16**	-.10*	-.11*	-.14*
Ruminative exploration	-.18**	-.03	-.09	-.08	.17**	.11*	.19**	.13**	.10*	.03	.09	.08
Reconsideration of commitment	-.04	-.02	-.01	.00	.14**	.09*	.15**	.18**	.04	.06	.12*	.10*
Self-esteem	.37**	.46**	.51**	.52**	-.25**	-.32**	-.32**	-.24**	-.27**	-.38**	-.38**	-.30**
Risk taking	-.18**	-.18**	-.20**	-.22**	.20**	.24**	.16**	.31**	.18**	.21**	.24**	.30**

Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

(CFI and TLI ≥ .90, SRMR ≤ .08; Hu & Bentler, 1999; Little, 2013), and the assumption of measurement invariance was retained (AIC, BIC, ΔCFI ≤ .01; Cheung & Rensvold, 2002).

Within-Time Correlations of Parenting-Identity and Parenting-Adjustment

Table 3.1 provides an overview of the concurrent relations between perceived parenting and identity dimensions as well as between perceived parenting and adjustment variables across study waves.

Rank-Order Stabilities and Mean-Level Changes

The 6-month rank-order stabilities for all study variables was assessed using the Spearman rank-order correlation between adjacent study waves. Perceptions of parenting dimensions were relatively stable over-time, with stability coefficients for autonomy support ranging from .62 to .72 (M=.66), dependency-oriented psychological control ranging from .58 to .65 (M=.61), and achievement-oriented psychological control ranging from .57 to .67 (M=.62), all ps < .001. Identity dimensions demonstrated stability coefficients similar to those previously reported (Luyckx, Schwartz, Goossens, et al., 2008; Luyckx, Soenens, et al., 2006), with commitment making ranging from .63 to .66 (M=.64), exploration in breadth from .39 to .50 (M=.45), identification with commitment from .57 to .65 (M=.61), exploration in depth from .34 to .49 (M=.42), ruminative exploration from .54 to .57 (M=.55), and reconsideration of commitments from .42 to .45 (M=.43), all ps < .001. Thus, although all autocorrelations were statistically significant, stability coefficients did indicate slight change in individuals' relative standings with respect to identity dimensions. Last, stability coefficients ranged from .59 to .73 (M=.67)

for self-esteem and from .74 to .80 (M=.77) for risk taking, all ps < .001. These autocorrelations suggest that adolescents generally maintained their relative standing on adjustment variables over time.

Gender differences and mean-level linear changes in study variables were evaluated through repeated-measures multivariate analysis of variance, with gender as a between-subjects variable, measurement occasion as a within-subjects variable, and the study variables as dependent variables. Significant multivariate effects of time and gender emerged, as did a significant interaction effect. Subsequent univariate analyses indicated significant effects for time on commitment making (increasing), identification with commitment (increasing), risk-taking (increasing), ruminative exploration (decreasing), and reconsideration of commitment (decreasing) (see Table 3.2).

Gender differences emerged for achievement oriented psychological control, commitment making, exploration in breadth, identification with commitment, exploration in depth, ruminative exploration, reconsideration of commitment, self-esteem, and risk-taking. Compared to girls, boys scored lower on exploration in breadth (M_G = 3.91, M_B = 3.78), exploration in depth (M_G = 3.75, M_B = 3.58), ruminative exploration (M_G = 3.00, M_B = 2.63), and reconsideration of commitment (M_G = 3.21, M_B = 3.00). On the other hand, boys scored higher than girls on achievement-oriented psychological control (M_G = 1.69, M_B = 1.82), commitment making (M_G = 3.77, M_B = 3.96), identification with commitment (M_G = 3.59, M_B = 3.81), risk-taking (M_G = 1.33, M_B = 1.42), and self-esteem (M_G = 3.3.77, M_B =4.13). A significant time x gender interaction was observed for reconsideration of commitment and risk-taking.

Table 3.2

Mean-level differences and standard deviations in perceived parenting, psychosocial adjustment, and identity across time

Dimension	T1 M(SD)	T2 M(SD)	T3 M(SD)	T4 M(SD)	time F-value (3,1443)	η^2	gender F-value (1,481)	η^2	time x gender F-value (3,1443)	η^2
Autonomy support	3.79 (0.62)	3.78 (0.64)	3.81 (0.61)	3.77 (0.63)	1.08	.00	1.97	.00	1.36	.00
Dependency-oriented psychological control	2.30 (0.69)	2.25 (0.68)	2.22 (0.72)	2.25 (0.71)	2.44	.00	2.11	.00	1.26	.00
Achievement-oriented psychological control	1.76 (0.79)	1.72 (0.81)	1.71 (0.84)	1.74 (0.81)	0.89	.00	4.30*	.01	0.32	.00
Commitment making	3.77 (0.87)	3.92 (0.84)	3.81 (0.88)	3.83 (0.86)	7.83***	.02	7.78**	.02	.40	.00
Exploration in breadth	3.88 (0.67)	3.90 (0.72)	3.80 (0.78)	3.87 (0.70)	1.81	.00	5.68*	.01	1.01	.00
Identification with commitment	3.60 (0.77)	3.71 (0.77)	3.66 (0.82)	3.69 (0.75)	3.94**	.01	13.77***	.03	.27	.00
Exploration in depth	3.67 (0.82)	3.74 (0.76)	3.64 (0.78)	3.69 (0.80)	1.84	.00	9.22**	.02	.27	.00
Ruminative exploration	3.05 (0.91)	2.89 (1.00)	2.77 (0.96)	2.76 (0.92)	19.66***	.04	26.27***	.05	1.27	.00
Reconsideration of commitment	3.28 (0.87)	3.16 (0.84)	3.03 (0.83)	3.08 (0.77)	9.44***	.02	19.70***	.03	6.48***	.01
Self-esteem	3.88 (0.95)	3.92 (0.90)	3.93 (0.86)	3.87 (0.88)	1.56	.00	24.71***	.05	.77	.00
Risk-taking	1.33 (0.27)	1.37 (0.33)	1.35 (0.30)	1.41 (0.35)	22.61***	.05	12.96***	.03	3.71*	.01

Note. $^*p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Table 3.3

Fit indices of group-based trajectory modeling

Solution	BIC	Entropy	Trajectory group counts (%)				
			1	2	3	4	5
			Parenting Trajectory Models				
2-class	10033.24	0.88	65.50	36.50			
3-class	**9659.76**	**0.85**	**39.78**	**44.82**	**15.41**		
4-class	9617.14	0.81	36.14	34.97	17.69	11.20	
5-class	9393.90	0.84	7.69	25.74	39.19	20.51	6.87
			Adjustment Trajectory Models				
2-class	5414.72	0.79	29.89	70.11			
3-class	**4998.28**	**0.82**	**27.01**	**59.47**	**13.53**		
4-class	4851.24	0.82	9.25	36.21	43.23	11.31	
5-class	4761.14	0.81	9.53	5.36	39.23	34.85	11.03
			Identity Trajectory Models				
2-class	24933.46	0.90	57.84	42.15			
3-class	24463.86	0.86	36.69	31.36	31.95		
4-class	**24162.42**	**0.86**	**25.35**	**26.62**	**21.14**	**26.89**	
5-class	23955.34	0.87	16.99	27.51	13.30	24.53	17.66

Note. BIC= Bayesian Information Criterion. Bolded rows represent those chosen as final solutions. N=483

Table 3.4

Parameters estimates for parenting, psychosocial adjustment, and identity models

	Parenting Trajectory Models		
Parenting Dimension	Highly Supportive	Decreasing Supportive	Stable Controlling
Autonomy support			
Mean intercept	4.25 (0.03)***	3.67 (0.03)***	3.00 (0.06)***
Mean linear slope	0.03 (0.18)	-0.03 (0.02)*	-0.02 (0.03)
Mean quadratic slope	-0.01 (0.02)	0.00 (0.02)	0.00 (0.03)
DPC			
Mean intercept	1.75 (0.04) ***	2.37 (0.04) ***	3.03 (0.07) ***
Mean linear slope	-0.07 (0.02)**	0.00 (0.02)	0.05 (0.04)
Mean quadratic slope	0.02 (0.02)	0.00 (0.02)	0.03 (0.04)
APC			
Mean intercept	.78 (0.06) ***	1.68 (0.06) ***	2.99 (0.08) ***
Mean linear slope	-0.10 (0.03)**	0.00 (0.03)	0.04 (0.05)
Mean quadratic slope	0.04 (0.04)	0.06 (0.03)*	-0.05 (0.05)

	Adjustment Trajectory Models		
Adjustment Dimensions	Low SE/ Low Risk-Taking	High SE/ Low Risk-Taking	Moderate SE/ Increasing Risk-Taking
Self-esteem (SE)			
Mean intercept	3.03 (0.12)***	4.43 (0.55) ***	3.86 (0.17) ***
Mean linear slope	0.00 (0.04)	0.00 (0.03)	-0.01 (0.06)
Mean quadratic slope	0.00 (0.05)	0.03 (0.03)	-0.09 (0.07)
Risk-taking			
Mean intercept	1.30 (0.04) ***	1.25 (0.01) ***	1.88 (0.03) ***
Mean linear slope	0.00 (0.01)	0.01 (0.00)	0.11 (0.02)***
Mean quadratic slope	0.00 (0.01)	0.00 (0.01)	0.02 (0.02)

	Identity Trajectory Models			
Identity Dimensions	Lost Searchers	Guardians	Pathmakers	Successful Searchers
CM				
Mean intercept	2.89 (0.07)***	4.11 (0.07)***	5.04 (0.08)***	4.00 (0.06)***
Mean linear slope	-0.05 (0.04)	-0.01 (0.04)	0.13 (0.05)**	0.05 (0.04)
Mean quadratic slope	-0.01 (0.04)	-0.08 (0.04)*	-0.02 (0.04)	-0.03 (0.04)
EB				
Mean intercept	3.58 (0.06)***	3.59 (0.07)***	3.99 (0.07)***	4.37 (0.06)***
Mean linear slope	-0.04 (0.04)	0.00 (0.04)	-0.03 (0.04)	0.03 (0.04)
Mean quadratic slope	0.05 (0.04)	0.01 (0.04)	0.00 (0.04)	-0.02 (0.04)
IC				
Mean intercept	2.87 (0.06)***	3.73 (0.06)***	4.75 (0.07)***	3.78 (0.05)***
Mean linear slope	0.01 (0.03)	-0.05 (0.03)	0.08 (0.04)*	0.07 (0.03)*
Mean quadratic slope	0.05 (0.03)	-0.09 (0.03)**	-0.11 (0.04)**	0.02 (0.03)
ED				
Mean intercept	3.22 (0.07)***	3.48 (0.07)***	4.34 (0.08)***	3.98 (0.07)***
Mean linear slope	-0.02 (0.04)	-0.05 (0.04)	0.03 (0.04)	0.03 (0.04)
Mean quadratic slope	0.02 (0.04)	-0.04 (0.04)	-0.09 (0.05)	0.09 (0.04)*
RE				
Mean intercept	3.51 (0.07)***	2.46 (0.08)***	1.65 (0.08)***	3.39 (0.07)***
Mean linear slope	-0.06 (0.04)	-0.03 (0.04)	-0.19 (0.04)***	-0.15 (0.04)***
Mean quadratic slope	0.01 (0.04)	0.06 (0.04)	0.12 (0.04)**	-0.03 (0.04)
RC				
Mean intercept	3.13 (0.07)***	2.81 (0.07)***	2.70 (0.08)***	3.62 (0.07)***
Mean linear slope	-0.01 (0.04)	-0.01 (0.04)	-0.14 (0.04)***	-0.14 (0.04)***
Mean quadratic slope	0.01 (0.04)	0.01 (0.04)	0.07 (0.05)	0.06 (0.04)

Note. DPC= dependency-oriented psychological control; APC= achievement-oriented psychological control; CM= commitment making; EB= exploration in breadth; IC= identification with commitment; ED= exploration in depth; RE= ruminative exploration; RC= reconsideration of commitment $^*p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Trajectory Class Analysis

Three sets of GBTMs were performed: the three parenting dimensions simultaneously, the two psychosocial adjustment dimensions simultaneously, and the six identity dimensions simultaneously. Within each model, we included an intercept, linear slope, and quadratic slope for two through five class solutions. An overview of the selection criteria for these solutions is presented in Table 3.3.

Parenting Trajectory Classes. Based on the criteria for determining the number of parenting classes to retain, the three-class solution was selected. The three-class solution had a lower BIC value than the two-class solution and a higher entropy value than the four-class solution. Further, the additional class in the three-class solution, as compared to the two-class solution, provided new valuable information. The three-class solution demonstrated excellent classification accuracy with APPA values ranging from .93 to .94 and OCC values > 5. Table 3.4 provides estimates of mean intercepts, linear slopes, and quadratic slopes for each parenting trajectory class. A graphical representation of the trajectory classes is presented in Figure 3.1. A first class (*Highly Supportive Parenting*; $n = 194$) was characterized by the highest levels of autonomy support and lowest levels of psychological control, with a downward linear trend in dependency-oriented and achievement-oriented psychological control. Class 2 (*Decreasing Supportive Parenting*; $n = 214$) was moderate on autonomy support as well as both types of psychological control. A downward linear trend was observed for autonomy support and a positive quadratic trend for achievement-oriented psychological control. Class 3 (*Stable Controlling Parenting; $n = 75$*) was lowest on autonomy support and highest on both

types of control, all of which remained stable.

Adjustment Trajectory Classes. With regard to adjustment trajectory classes, a three-class solution was selected. Although the four-class solution had a slightly lower BIC value as compared to the three-class solution as well as equal entropy values, the four-class solution included classes that were variations on a single theme. Thus, we favored the more parsimonious three-class solution. The three-class solution demonstrated excellent classification accuracy with APPA values ranging from .91 to .95 and OCC values > 5. Parameter estimates for each class are provided in Table 3.4 and a graphical representation of classes is depicted in Figure 3.2. Class 1 (*Low Self-Esteem/Low Risk-Taking*; $n = 129$) was lowest on self-esteem and risk-behaviors, both of which remained stable. Class 2 (*High Self-Esteem/Low Risk-Taking; n = 284*), was highest on self-esteem and lowest on risk behaviors, which also remained stable. Class 3 (*Moderate Self-Esteem/ High Risk-Taking*; $n = 70$) was characterized by moderate levels of self-esteem which remained stable over time and highest levels of risk behaviors which demonstrated an upward linear trend.

Dependency-oriented psychological control

Achievement-oriented psychological control

Autonomy support

........•........ Highly Supportive Parenting (n=194)
- - -◆- - - Decreasing Supportive Parenting (n= 214)
——■—— Stable Controlling Parenting (n=75)

Figure 3.1. Observed mean trends for the three parenting dimensions in the three parenting trajectory classes

Figure 3.2. Observed mean trends for self-esteem and risk behaviors in the three adjustment trajectory classes

Figure 3.3. Observed mean trends for the six identity dimensions in the four identity trajectory classes

Identity Trajectory Classes. Lastly, with regard to identity, we selected a four-class solution. In the five-class solution some classes were variations on a single theme and did not provide additional meaningfulness. Furthermore, the more parsimonious four-class solution had a lower BIC and a similar entropy value as compared to the five-class solution. The four-class solution demonstrated excellent classification accuracy with APPA values ranging from .90 to .94 and OCC values > 5. Parameter estimates for each class are provided in Table 3.4, and a graphical representation of classes is presented in Figure 3.3. The first class (*Lost Searchers*; n = 124) was lowest on commitment making, identification with commitment, exploration in breadth, and exploration in depth, highest on ruminative exploration, and moderate on reconsideration of commitment, all of which remained stable over time. Class 2 (*Guardians*; n = 124) was moderate on both commitment dimensions, low on exploration in breadth, exploration in depth, ruminative exploration, and reconsideration of commitment. All identity dimensions remained stable over time except for identification with commitment, which was characterized by a negative linear trend. Class 3 (*Pathmakers*; n = 104) was highest on both commitment dimensions and exploration in depth, lowest on ruminative exploration and reconsideration of commitment, and relatively moderate on exploration in breadth. Commitment making increased linearly and reconsideration of commitment decreased linearly. A positive linear trend, coupled with a negative quadratic trend, was observed for identification with commitment, whereas ruminative exploration evidenced a negative linear trend coupled with a positive quadratic trend. Exploration in breadth and exploration in depth remained stable over time. Class 4 (*Successful Searchers*; n = 131) was relatively moderate on both commitment dimensions as well as on exploration in

depth, relatively high on ruminative exploration, and highest on exploration in breadth and reconsideration of commitment. Identification with commitment increased linearly and ruminative exploration, and reconsideration of commitment decreased linearly. Exploration in depth evidenced a positive quadratic trend. Commitment making and exploration in breadth remained stable over time.

Associations between trajectory classes

To estimate the degree of association of parenting classes with both psychosocial adjustment classes and identity classes, we performed two sets of chi-square analyses (Table 3.5). A statistically significant association between parenting classes and psychosocial adjustment classes, $\chi^2(4) = 89.23$, $p < .001$, $V = .30$, as well as between parenting classes and identity classes, $\chi^2(6) = 14.71$, $p = .02$, $V = .12$ emerged. More specifically, with respect to parenting classes and psychosocial adjustment, all categories except two demonstrated important associations. The Highly Supportive Parenting class was characterized by an overrepresentation of adolescents in the High Self-Esteem/Low Risk-taking class and an underrepresentation of both the Low Self-Esteem/Low Risk-Taking and Moderate Self-Esteem/Increasing Risk-Taking classes. For Decreasing Supportive Parenting, there was a trend towards overrepresentation of the Moderate Self-Esteem/Increasing Risk-Taking classes. Finally, Stable Controlling Parenting was characterized by an underrepresentation of High Self-Esteem/Low Risk-Taking and an overrepresentation of both Low Self-Esteem/Low Risk-Taking and Moderate Self-Esteem/Increasing Risk-Taking. Regarding the overlap between parenting and identity classes, Highly Supportive Parenting was characterized by an

Table 3.5

Cross-tabulation for parenting trajectory classes with adjustment and identity trajectory classes

| | Parenting Trajectory Clusters | | |
	Highly Supportive Parenting (n=194)	Decreasing Supportive Parenting (n=214)	Stable Controlling Parenting (n=75)
Adjustment Trajectory Clusters			
Low SE/Low risk (n=129)			
observed	30	55	44
expected	51.81	57.16	20.03
adjusted standardized residual	-4.58	-0.45	6.80
High SE/Low risk (n=284)			
observed	155	121	12
expected	114.07	125.83	44.10
adjusted standardized residual	6.96	-0.90	-8.19
Mod SE/Increasing risk (n=70)			
observed	13	38	19
expected	28.12	31.01	10.87
adjusted standardized residual	-3.99	1.82	2.90
Identity Trajectory Clusters			
Lost Searchers (n=124)			
observed	48	51	25
expected	49.81	54.94	19.25
adjusted standardized residual	-0.38	-0.83	1.65
Guardians (n=124)			
observed	42	65	17
expected	49.81	54.94	19.25
adjusted standardized residual	-1.65	2.11	-0.65
Pathmakers (n=104)			
observed	54	42	8
expected	41.77	46.08	16.15
adjusted standardized residual	2.76	-0.91	-2.49
Successful Searchers (n=131)			
observed	50	56	25
expected	52.62	58.04	20.34
adjusted standardized residual	-0.55	-0.42	1.32

Note. SE= self-esteem; risk= risk-taking; Observed= observed counts; Expected= expected counts based on the assumption of independence.

overrepresentation of Pathmakers, whereas Decreasing Supportive Parenting overlapped significantly with Guardians. Lastly, Stable Controlling Parenting was underrepresented within the Pathmaker class and evidenced a trend toward overrepresentation within the Lost Searcher class.

Discussion

Adolescence is a time full of developmental changes during which youth are also faced with important academic transitions. While parents are an important source of support to adolescents, little is known regarding the different ways in which parenting may evolve during such transitions. The current investigation was designed to provide a novel contribution to the developmental literature – specifically, we identified trajectories of perceived parenting, psychosocial adjustment, and identity development over an important educational transition in the lives of Swiss adolescents, and we examined the degree of overlap among these groups of latent trajectories. We derived three trajectory classes for parenting, three trajectory classes for psychosocial adjustment, and four trajectory classes for identity development. Furthermore, parenting trajectory classes overlapped significantly with both psychosocial adjustment and identity trajectory classes.

Trajectories of Perceived Parenting, Psychosocial Adjustment, and Identity Development

Although popular media often present adolescence as a time of major turmoil, this is typically not the case (Smetana & Rote, 2019). In fact, adolescents in the present study largely traversed this major educational transition in a positive manner, as evidenced by

the large proportion of adolescents identified in the more adaptive trajectories in all three domains (perceived parenting, psychosocial adjustment, and identity development). With regard to parenting and in line with our hypotheses, three trajectory classes were identified, suggesting that parental levels of perceived autonomy support and psychological control evolve in three overarching ways. Parents who were, prior to the transition, perceived as demonstrating higher levels of autonomy support and lower levels of psychological control (i.e., Highly Supportive Parenting) were perceived as maintaining this developmentally favorable level of autonomy support and decreased levels of perceived psychological control. In fact, this class represented nearly half of adolescents (roughly 40%). However, when parents were already struggling prior to the transition relying on relatively elevated levels of psychological control and relatively low levels of autonomy support (i.e., Stable Controlling Parenting), parents appeared to maintain this strategy across the academic transition. On the other hand, a large subset of parents (44%) who were initially perceived as moderately autonomy supportive and psychological controlling (i.e., Decreasing Supportive Parenting) decreased their levels of support and increased their levels of achievement-oriented control across the transition. This finding is in line with previous research suggesting that parents who feel they are losing control are more likely to increase in their use of psychological control (Rogers et al., 2020). Thus, the school transition may be experienced as stressful for certain parents, and may especially incite an increased use of achievement-oriented control.

With respect to psychosocial adjustment, we identified three trajectory classes. The large majority (59%) of adolescents were characterized by the High Self-Esteem/Low Risk-Taking class, maintaining these levels across the school transition. Thus, these adolescents appeared unphased by the change in academic demands and environment, at

least in terms of their self-esteem and their engagement in risky behaviors. Interestingly, a group of adolescents was characterized by Moderate Self-Esteem/Increasing Risk-Taking. Potentially, for these adolescents risk-taking may serve as a form of healthy exploration, allowing adolescents the opportunity to figure out their likes and dislikes, ultimately contributing to their sense of self (Marcia, 1980; Ravert, 2009). Indeed, this type of exploratory behaviors in the form of risk-taking has been considered normative during adolescence (Zimmermann et al., 2017). For the third group of adolescents with already low self-esteem, the educational transition did not endanger their self-esteem any further. Thus, in general, while previous research documented slight decreases in self-esteem during academic transitions to be relatively normative (Harter & Whitesell, 2003; Wigfield et al., 1991), none of the psychosocial adjustment classes in our study demonstrated such an evolution.

In regard to identity classes and in line with Luyckx and colleagues (2008), we identified Pathmakers and Guardians. Pathmakers, representing nearly a quarter of participants, exemplified adolescents who have explored identity possibilities and made identity commitments. Guardians represent a type of identity foreclosure with high levels of commitment and little exploration and reconsideration. Interestingly, the school transition appeared to insight increases in commitment dimensions, which returned to initial levels following the transition. This is emblematic of the foreclosure type, who are characterized by rigidity and reluctance to explore (Marcia, 2006). When faced with challenges or threats to their commitments, such as during a school transition, they typically would react defensively, giving more push back (Kroger & Marcia, 2011). Once they feel the threat has subsided, commitment levels would return to normal.

Notably, whereas past research (Luyckx, Schwartz, Goossens, et al., 2008) identified

one trajectory exemplifying the moratorium status (i.e., Searchers), in the present study we identified two trajectory classes reflecting both the bright and dark sides of moratorium (i.e., searching moratorium and ruminative moratorium; Crocetti & Meeus, 2015), those being Successful Searchers and Lost Searchers. Together these two classes represented nearly 50% of adolescents, thus reflecting the large amount of identity work typical of middle adolescence (Luyckx et al., 2011). These two trajectories are also in line with previous longitudinal identity research and theorizing on identity progression versus regression (Meeus et al., 2010; Waterman, 1982). In fact, Waterman (1982) in his developmental hypotheses suggests that not only can there be identity stability or maturation, but that regression in identity can be experienced if previous identity commitments are evaluated as unsatisfactory or no longer retain their initial meaning. Waterman's hypothesis could serve as a plausible explanation for the regressive trajectory experienced by the Lost Searchers during this transition, during which time they may have been prompted to revisit previous commitments and make decisions as to what path to take. For Successful Searchers on the other hand, the school transition seemed to stimulate their healthy identity work as evidenced by increases in identification with commitment and decreases to their moderate/high levels of ruminative exploration and reconsideration of commitment.

Associations Between Trajectories of Parenting, Psychosocial Adjustment, and
   Identity

In line with the second aim of the study, the present results evidenced overlap between parenting trajectory classes and both (a) psychosocial adjustment trajectory classes as well as (b) identity trajectory classes. First, adolescents in the Highly

Supportive Parenting trajectory were particularly likely to maintain high stable levels of self-esteem and low stable levels of risk. Thus, when adolescents' needs for autonomy are supported, they are more likely to experience better overall adjustment, avoiding the decline in wellbeing that often typifies school transitions (Eccles et al., 1993). Also, in line with our hypotheses, adolescents in the Highly Supportive Parenting trajectory were more likely to follow the Pathmaker trajectory, demonstrating the most mature identity development. In line with previous longitudinal research, satisfaction of one's need for autonomy seems to be especially helpful in aiding one to make identity commitments and integrate these commitments into one's sense of self (Luyckx et al., 2009). This principle is exemplified in the present study, with Pathmakers being characterized by high levels of commitment. Need satisfaction is of paramount importance if one is to internalize identity commitments (Deci & Ryan, 2000; Luyckx et al., 2009). Thus, adolescents who experienced greater autonomy need satisfaction were better able to engage in healthy exploratory behaviors and to engage in and integrate commitments. Such identity success may result from these adolescents forming identities that are representative of their own values and interests that they were able to identify and explore given the supportive environment provided by their parents.

Conversely, a significant proportion of adolescents in the Stable Controlling Parenting trajectory were characterized by Low Self-esteem/Low Risk-Taking. One possible explanation may be that parenting that is highly controlling control thwarts adolescents' need for autonomy, ultimately having a negative impact on adolescents' self-esteem (Soenens & Vansteenkiste, 2010). These adolescents were also more likely to follow a more troubled identity trajectory (i.e., Lost Searchers). During stressful educational transitions, adolescents may need greater support from their parents (Fenzel,

1989), however, parents of these adolescents steadily employed intrusive techniques, thereby continuously thwarting their child's need for autonomy (Barber, 1996; Barber & Harmon, 2002a). When parents pressure children to comply with parents' own standards and interests, adolescents are less in touch with their own sense of self and experience difficulties forming commitments (Luyckx, Soenens, Vansteenkiste, et al., 2007). This pattern is exemplified by Lost Searchers' low levels of commitment. Furthermore, in line with the high levels of ruminative exploration evidenced by Lost Searchers, previous research has suggested that adolescents whose parents use intrusive and psychologically controlling techniques to be more likely to develop an indecisive orientation (Luyckx, Soenens, Vansteenkiste, et al., 2007). Thus, the high levels of psychological control and low levels of autonomy support appeared to be detrimental to proactive identity development for these adolescents.

Lastly, adolescents in the Decreasing Supportive Parenting trajectory were most likely to demonstrate moderate levels of self-esteem and increasing risk-taking behaviors. One possible explanation for this association is that, while these parents were initially relatively autonomy supportive, the school transition coupled with their adolescents' increased risk behaviors brought out higher levels of achievement-oriented control following the school transition. Furthermore, these adolescents were also more likely to be Guardians, demonstrating higher levels of commitment and lower levels of identity exploration. Given that Guardians typically adhere to parental standards (Kroger, 2004a), when parents felt their adolescent to be straying "too far", they may have tried to refocus their child on academic-oriented topics (Soenens & Vansteenkiste, 2010). Indeed, these increases in commitment may be externally imposed rather than autonomously motivated, given their levels return to initial levels (Soenens et al., 2011).

Overall, these results highlight the significant role parents can have in accompanying their adolescent children along difficult transitions. When parents are able to maintain higher levels of autonomy support coupled with lower levels of psychological control, adolescents feel supported. This may be particularly important during stressful school transitions. Adolescents whose parents are autonomy supportive demonstrate a more coherent sense of self and in turn a stable self-esteem (Deci & Ryan, 1995). These findings are in line with the concept of stage-environment fit (Eccles et al., 1993), which suggests that negative developmental consequences can result when one's environment does not support one's needs, but on the other hand, when there is a good match between one's needs and one's environment adolescents can flourish. Furthermore, while new school environments can often be frustrating to an adolescent's need of autonomy, previous research has suggested that the provision of parental autonomy support can serve as a substitute (Duineveld et al., 2017), thus, even when the school transition is experienced as more need frustrating, parents can be an additional source of support for their child's need satisfaction. Thus, parenting should not be seen as fixed in place, but rather as a set of interactional skills that can evolve over time.

These findings have important implications for intervention work with parents of adolescents. Parenting interventions focused on helping parents improve their ability to support their child's need for autonomy, especially during important transitional moments, could serve as an invaluable resource for parents to guide their youth. Such interventions could help equip parents with the necessary tools to be autonomy supportive, including helping them to recognize and acknowledge their child's feelings and to listen empathically to their child (Faber & Mazlish, 1980), ultimately helping them to support their child's health psychosocial and identity development. Although such

parenting programs exist, the majority of them focus on parents of young children (e.g., Joussemet et al., 2014). The present study highlights the crucial role and the necessity for such programs to be expanded and evaluated for parents of adolescents.

Limitations and Future Directions

Although the present study provides novel insight into adolescent development and the evolution of parenting during an important academic transition, a number of limitations should be considered. First, the present study relied solely on adolescent self-report measures. Although self-report questionnaires are considered the most appropriate method for assessing internal and subjective processes, such as identity development and perceived parenting (Barber, 1996), relying solely on single informant data may artificially inflate relationships between constructs (Podsakoff et al., 2012). Future studies could employ observational methods to objectively assess autonomy-supportive parenting as well as take into account parents' subjective perception of their autonomy-supportive parenting. Second, the present study took place over a relatively short amount of time, in particular in regard to the moment of transition (one-year pre-transition and one year post-transition). A longer follow-up post-transition could provide further insight into how adolescents and parents adjust over time, especially given the difficult nature of such a transition (Salmela-Aro et al., 2008).

Third, the analytic technique employed in the present study does not allow directional or causal conclusions to be drawn. In the present study, we were interested in observing how typologies of perceived parenting and adolescent development evolve in parallel. Thus, we cannot say with certainty that a certain parenting trajectory predicts a specific identity development trajectory, for example. An abundance of longitudinal

research does, however, support that family functioning predicts adolescent development (e.g., Beyers & Goossens, 2008). These predictive relationships are not only in one direction, i.e., family functioning to adolescent development, but rather have been found to be bidirectional in nature (Schwartz, Mason, Pantin, & Szapocznik, 2009). Thus, not only has parenting been found to predict adolescent development, but adolescent development may elicit certain parenting styles. Therefore, although the present study cannot speak to predictive or causal relationships, past research has suggested bidirectional relationships among family functioning, identity development, and adolescent psychosocial adjustment. Future studies should take inspiration from the present results and investigate the direction of effect of such developmental trajectories. Lastly, the present results concerning self-esteem trajectories should be interpreted as a description of how self-esteem evolves across an academic transition. Past findings suggest that bolstering the self-esteem of adolescents with already low self-esteem can be detrimental (Forsyth et al., 2007), thus, future studies should investigate the best approaches to helping support adolescent students with already low self-esteem. It is our hope that the present study will inspire further longitudinal research examining how parenting and adolescent development evolve during important transitions in the lives of adolescents, ultimately helping parents to understand how best to support their children during these challenging moments.

Chapter 4

Exposing the role of coparenting and parenting for adolescent personal identity processes[6]

In line with a family systems perspective, this study examined the association between two aspects of family climate, that of coparenting (cooperation, triangulation) and parenting (autonomy-support, dependency-oriented and achievement-oriented psychological control) and their relation to adolescent personal identity formation (commitment making, identification with commitment, exploration in breadth, exploration in depth, ruminative exploration, reconsideration of commitment). Using structural equation modeling, we tested the hypothesis that coparenting would be associated with adolescent identity formation via parenting. Cross-sectional self-report data were collected from 1,105 Swiss adolescents (aged 13-18 years; 51% female). Structural equation modeling revealed associations between coparental cooperation and more adaptive identity formation via parental autonomy support. Conversely, coparental triangulation was associated with maladaptive identity dimensions via parental dependency-oriented psychological control. These associations were not moderated by age, gender, or family structure.

Introduction

It is well-accepted that from a very young age social context plays a paramount role in shaping who we become, as established by Erik Erikson's seminal theory of psychosocial development (Erikson, 1968). The family context is the first social milieu that a child is exposed to and continues to play a significant role in the lives of adolescents. During these adolescent years, a critical developmental task is the formation of a coherent sense of identity, that is, a coherent set of goals, values, and commitments that define who one is. Unsuccessful resolution of this developmental task has repercussions on adolescents' future well-being and psychosocial functioning (Erikson, 1968; Waterman, 2007; Waterman et al., 2013). In fact, adolescents who lack a coherent sense of identity are more at risk for maladjustments, including internalizing (Crocetti et al., 2009; Schwartz, Beyers, et al., 2011) and externalizing difficulties (Crocetti et al., 2009).

While identity formation has often been considered to be an internal psychological process, identity is in fact formed through interactions between person and context (Erikson, 1968; Kroger, 2004a) and needs to be examined within the different ecological environments in which it is embedded (Bronfenbrenner, 2005). Among proximal contexts, the importance of the parent-child relationship and parenting behaviors has received much attention from identity researchers and its influence on identity formation has been widely supported (e.g., Beyers & Goossens, 2008; Luyckx et al., 2011; Luyckx, Soenens, Vansteenkiste, et al., 2007; Sartor & Youniss, 2002). However, in line with family systems theorists (Bowen, 1978; P. Minuchin, 1985; S. Minuchin, 1974), families are composed of a number of interacting relationships, that should be understood as an

organized whole and are not reducible to the sum of their parts. Thus, the family context must not simply be reduced to this parent-child relationship. A number of family theorists contend that the coparental relationship, defined as the collaboration between parents in regards to child rearing, provides a more comprehensive understanding of family functioning (see Feinberg, 2003; McHale, 2007a; McHale & Rasmussen, 1998). In this light, the general aim of this study was to examine the associations between perceived coparenting and adolescent personal identity formation, which to the best of our knowledge remains unexplored in the literature, thereby testing whether perceived parenting would act as an explaining mechanism between coparenting and personal identity formation.

Adolescent Identity Formation

In Marcia's (1966) operationalization of Erikson's theory of identity development, identity formation was presented as being a function of adolescents' degree of exploration (i.e., the process of exploring different identity alternatives in varying life domains) and commitment (i.e., the adherence to a set of values and beliefs). More recently, several authors have stressed the importance of a deeper understanding of the underlying processes at play in identity formation and have developed models that aim to better capture these processes (for reviews, see Crocetti & Meeus, 2015; Luyckx et al., 2011). In an extension of Marcia's work, Luyckx and colleagues (2006; 2008) proposed a dual-cycle model of identity formation in which the authors "unpacked" the dimensions of exploration and commitment. The first cycle, commitment formation, refers to a general exploration of identity commitments (*exploration in breadth*) with the forming of initial identity commitments (*commitment making*). The second cycle, commitment

evaluation and maintenance, involves a thorough evaluation of one's existing commitments (*exploration in-depth*), and should these initial commitments seem adequate, they will be integrated and internalized (*identification with commitment*). Should these identity commitments not seem adequate, they will be re-evaluated and reconsidered for other alternatives (reconsideration of commitment; see Crocetti, Rubini, & Meeus, 2008; Skhirtladze et al., 2016; Zimmermann et al., 2015). Lastly, an individual may find themselves stuck in a process of *ruminative exploration,* in which they feel incapable of closing down the exploration process and are unable to make firm commitments. In research mainly conducted in western societies, it was found that these later two identity processes (*reconsideration of commitment* and *ruminative exploration*) have been associated with poorer psychosocial outcomes in adolescents (Beyers & Luyckx, 2016) whereas the four former identity processes (*exploration in breadth*, *commitment making*, *exploration in depth*, and *identification with commitment*) would rather indicate positive identity development (i.e. a sense of identity coherence; Eichas et al., 2015), as they have been associated with a host of positive outcomes, including academic adjustment and self-esteem (e.g., Luyckx, Goossens, & Soenens, 2006; Luyckx, Soenens, Goossens, et al., 2007).

Coparenting and Identity Formation

Over the past 40 years, personal identity formation has been more so conceived as an intra-individual process (Côté & Levine, 1988; van Hoof, 1999). However, in Erikson's original writings (1968, 1974, 1980), he emphasized the importance of person-context interaction for the development of a personal identity. Thus, the development of a coherent sense of self results from the interaction between a person and the different

contexts that surround them, with one of the most important contexts being that of their family. More recently, several authors have refocused on the importance of context for identity formation, using process-oriented models to examine the associations between the parent-child relationship and identity formation (e.g., Beyers & Goossens, 2008; Crocetti et al., 2017; Luyckx, Soenens, Vansteenkiste, et al., 2007; Smits et al., 2008). Although these studies typically focused on the role of the parent-child relationship, family systems theory posits that the family is composed of a number of interacting systems, with the parent-child relationship being just one (Minuchin, 1974). Another important relationship that adolescents are implicated in and that has received far less empirical attention is the coparental relationship (Minuchin, 1974).

Coparenting refers to the collaboration between parental figures in regards to the rearing of a child for whom they share responsibility and can be characterized as a family group level dynamic (Feinberg, 2003). In other words, the coparental relation can be seen as encompassing all exchanges or actions occurring between parental figures having to do either implicitly or explicitly with the taking care of their child (McHale, 1997). Coparenting can be distinguished from parenting, which has to do specifically with the individual relationship each parent has with his or her child. While both parental figures are implicated in the coparental relation, it remains separate from the marital (romantic) relationship between parental figures (Belsky et al., 1995) as well as the individual parent-child relationship (S. Minuchin, 1974). In fact, coparenting has emerged as a unique construct separate from that of parenting, accounting for additional variance in regards to the prediction of child adjustment (Belsky et al., 1996; Caldera & Lindsey, 2006).

Often studied facets of coparenting include cooperation and triangulation (Margolin et al., 2001; Teubert & Pinquart, 2010). Cooperation refers to the inter-parental exchange

of information concerning the child, as well as support and respect between parents in regards to childrearing issues, creating an environment of open communication and mutual loyalty (Teubert & Pinquart, 2010). Triangulation is characterized by the implication of the child in parental arguments concerning childrearing matters in an effort to form a coalition between one parent and the child in order to exclude or undermine the other parent (Teubert & Pinquart, 2010). Interactions involving triangulation can often be conflictual in nature, and thus triangulation is sometimes considered to be a specific type of coparental conflict (Favez & Frascarolo, 2013).

Given adolescents' increasing need for independence and their exposure to new social experiences, the coparenting relationship may be of particular importance during this developmental period (Feinberg et al., 2007). A secure and consistent base is crucial for healthy development, however, during adolescence this can become more challenging for parents to provide. Given that coparenting implicates a coordination between parents, they are confronted with the need for regular readjustment and high levels of coordination as adolescents explore new aspects of themselves and test certain limits (Steinberg & Silk, 2002; Teubert & Pinquart, 2011a). In fact, coparental discord and the use of coparental triangulation has been associated with adolescent antisocial behavior and internalizing symptoms (Baril et al., 2007; Buehler & Welsh, 2009; Feinberg et al., 2007). While the majority of research on coparenting and adolescence focuses on the implications of suboptimal coparenting on maladaptive psychosocial development, less research has investigated the relation between coparenting and more developmental processes, such as identity formation. Given that identity formation is the key developmental task of adolescence and that coparenting can be especially challenging

during this time, it is of particular importance to explore the potential relationship between these two constructs.

On a theoretical level, Bowen (1978) alluded to the relationship between identity formation and triangular interactions in families, in his theory of family systems. According to Bowen (1978), triangulation may be employed by either one or both parents as a manner of reducing the tension between them, given that a two-person system can tolerate much less stress than a three-person system. By including a third person in this tension, it helps to offload the stress from one person onto another. However, this implication of the child blocks his ability to differentiate from the family and hence he does not have the ability to explore self-determined interests and values, therefore impinging on identity formation (Perosa et al., 2002).

Although alluded to theoretically, no empirical research to date has explored this relationship between coparenting and adolescent identity formation. Existing evidence has suggested a relationship between coparenting and constructs associated with identity such as adolescent adjustment. For example, Buehler and Welsh (2009) found coparental triangulation to be longitudinally associated with higher levels of internalizing problems in adolescents. In another longitudinal study, Feinberg, Kan, & Hetherington (2007) showed coparental conflict to predict adolescent maladjustment. Thus, in line with theoretical suggestions as well as findings supporting the relationship between the identity processes of ruminative exploration and reconsideration of commitment and internalizing problems in adolescents (Beyers & Luyckx, 2016), we expected to find a relationship between coparental triangulation and these two maladaptive processes of identity formation. Furthermore, Shoppe-Sullivan and colleagues (2009), found coparental cooperation to prevent increases in externalizing behaviors in children. Given

empirical research findings suggesting an association between coparental cooperation and psychological adjustment in adolescents, we expected perceived coparental cooperation to be associated with the identity processes of commitment making, identification with commitment, exploration in breadth, and exploration in depth.

Moreover, we expected that such associations between perceived coparenting and identity would be explained by adolescents' perceptions of parenting. In accordance with family systems theory (Minuchin, 1974), the different familial relationships do not exist in isolation. In fact, the different relationships within a family can be highly interconnected and, thus, what occurs in one relationship may have an effect on others (Cox & Paley, 2003). In light of this, the *spillover hypothesis* (Erel & Burman, 1995) postulates an interdependence between familial relationships and suggests that emotions and experiences from one relationship (e.g., between parents in the coparental relationship) can spillover onto and influence other relationships (e.g., how parents interact with their children), which in turn may impact the development of the child (Teubert & Pinquart, 2011b). In fact, several researchers have found parenting to either partially or fully mediate the association between coparenting and children's internalizing and externalizing problem behavior (Jones et al., 2003; Shook et al., 2010). In order to best understand how the family plays a role in the functioning of each of its members, it is important to consider the family not just as one system, but as an interaction of a number relationships (Cox & Paley, 2003). Drawing upon the spillover hypothesis, we expected to observe an association between more optimal coparenting and parenting as well as, an association between more negative coparenting and parenting, with perceived parenting serving as an explanatory mechanism between perceived coparenting and adolescent identity processes.

Parenting and Identity Formation

Building upon the family systems theory of Bowen (1978) and in line with previous work linking perceived parenting and identity formation (e.g., Beyers & Goossens, 2008; Luyckx, Soenens, Vansteenkiste, et al., 2007), two dimensions of parenting appear to be of particular importance in regards to adolescent identity processes, those of autonomy support and psychological control (Barber, 1996; Barber & Harmon, 2002b). Parenting behaviors that are autonomy-supportive are those that are supportive of a child's point of view and encourage the child to explore and act upon his/her personal interests and values (Ryan & Deci, 2000a; Soenens et al., 2007). Parental support of autonomous functioning allows adolescents to become self-governing individuals, as they are able to base their actions on personal interests and values and hence feel a sense of freedom and engagement in their choices (Soenens et al., 2007). Abundant findings support the association between perceived autonomy-supportive parenting and adaptive adolescent functioning, including higher well-being and adjustment (e.g., Grolnick et al., 1997). Conversely, parental psychological control refers to parenting behaviors that intrude on a child's thoughts and feelings and are often characterized by the use of manipulative techniques such as guilt induction, shaming, conditional regard, and love withdrawal (Barber, 1996; Barber & Harmon, 2002b). Hence, previous research consistently found perceived psychological control to relate to maladaptive adolescent outcomes, including lowered well-being (e.g., Soenens, Vansteenkiste, et al., 2005), psychopathology (e.g., Barber, Stolz, & Olsen, 2005;) and problem behavior (e.g., Pettit et al., 2001).

Based on Blatt's theory (1974), two forms of psychological control have recently been elaborated, those targeted at maintaining interpersonal closeness or relatedness (*dependency-oriented psychological control*) and those that relate to issues of academic achievement (achievement-oriented psychological control; Soenens et al., 2010). For example, a parent who becomes upset with their child whenever their child wishes to go play with friends would be demonstrating dependency-oriented psychological control, whereas a parent who is friendly with their child only when they succeed on an exam, would be exhibiting achievement-oriented psychological control. While both types of psychological control have been associated with internalizing difficulties in emerging adulthood (Soenens & Vansteenkiste, 2010), they remain unique from one another, demonstrating differing paths of action, with dependency-oriented psychological control acting through dependency and achievement-oriented psychological control through self-criticism (Soenens et al., 2010). In the present study we differentiated between these two types of psychological control to examine whether they would have differing associations with identity dimensions. Specifically, we predicted that dependency-oriented psychological control especially would be associated with less adaptive and more maladaptive exploration, given that exploratory behaviors may entail a separation from parental figures, whereas achievement-oriented psychological control rather would be associated with less commitment to identity alternatives, given the elevated pressure an adolescent might feel to make the correct choice.

A number of researchers have used process oriented models of identity formation (i.e., exploration in breadth, commitment making, exploration in breadth, and identification with commitment) to assess the associations between perceived autonomy-supportive and psychologically controlling parenting with adolescent personal identity

(e.g., Beyers & Goossens, 2008; Luyckx, Goossens, & Soenens, 2006; Luyckx, Soenens, Goossens, et al., 2007; Luyckx, Soenens, Vansteenkiste, et al., 2007). Overall, the findings of these studies suggest psychologically controlling parenting to be associated with higher levels of exploration in breadth and lower levels of commitment making and identification with commitment, whereas autonomy-supportive parenting showed the opposite pattern of results. These studies, however, did not include an integrated six-dimensional model of identity and hence were unable to assess associations with the more maladaptive dimensions of ruminative exploration and reconsideration of commitment along with the four adaptive identity dimensions. In the same way, authors of these studies did not differentiate between dependency-oriented and achievement-oriented psychological control. In the present study we propose a more refined examination of the association of parenting with identity and its potential role as explanatory mechanism between coparenting and adolescent personal identity.

The Present Study

In line with family systems theory (Bowen, 1978; Minuchin, 1974), the general aim of the present study was to examine how multiple familial subsystems interact to ultimately be associated with adolescent identity processes. More specifically, our goal was to examine the relationship between coparenting, parenting, and adolescent identity processes. To our knowledge, no research has included coparenting in regards to adolescent identity processes, supporting the novelty of the current study. Furthermore, we used a more fine-grained model to assess identity as well as two subtypes of psychologically controlling parenting, that is, achievement-oriented and dependency-oriented psychological control. In doing so, we hope to help elucidate not only how

multiple familial relationships influence adolescent identity formation but also help fill the gap in the literature in regards to the potential relationship between coparenting and adolescent development.

More specifically, we first expected more adaptive coparenting (high levels of cooperation) to be associated with more adaptive parenting (high levels of autonomy support) and conversely more maladaptive coparenting (high levels of triangulation) to be associated with more maladaptive parenting (high levels of psychological control). In turn, we predicted autonomy-supportive parenting to be positively related to adaptive identity processes and negatively to maladaptive identity processes. Similarly, we also predicted psychologically controlling parenting to be positively related to maladaptive identity processes and negatively associated with positive identity processes, with achievement-oriented control mainly being linked to the commitment dimensions and dependency-oriented control especially relating to the exploration dimensions. Figure 4.1 depicts the hypothesized general model.

Finally, we also examined the role of age, gender, and family structure. In line with previous research, mean-level differences in age, gender, and family structure were expected for some of the variables. For instance, Luyckx, Vansteenkiste, and Goossens (2009) found girls to score higher on exploration in depth and ruminative exploration, while in another study Luyckx and colleagues (2008) found greater levels of commitment making and lower levels of exploration in breadth as a function of age. In spite of our these hypothesized mean-level differences, we expected structural relations to be similar across age, gender, and family structure, in line with previous research examining associations between parenting and identity indicating an absence of moderation by these variables (Crocetti et al., 2017; e.g., Luyckx, Soenens, Vansteenkiste, et al., 2007).

Figure 4.1. The hypothesized general model relating coparenting (cooperation and triangulation), parenting (autonomy support (AS), dependency oriented psychological control (DPC), and achievement oriented psychological control (APC)), and identity dimensions (commitment making (CM), identification with commitments (IC), exploration in breadth (EB), ruminative exploration (RE), exploration in depth (ED), and reconsideration of commitment (RC)). A "+" sign denotes a hypothesized positive relationship and a "-" denotes a hypothesized negative relationship. In the interest of clarity, adaptive and maladaptive dimensions of identity have been grouped together, however, in the structural model, these relationships were tested separately.

Method

Participants and Procedure

The data for this study was collected as part of a larger longitudinal study, which was in compliance with the ethical code of the Swiss Society of Psychology (SSP). All participants were in their last year of mandatory secondary school (i.e., 9th grade). Self-report questionnaire packages were group-administered in class in the presence of two trained members of the research team. In total, 1,105 adolescents (51% female, 49% male) agreed to participate. Participants had a mean age of 15.08 years ($SD = .64$), with 98% of adolescents falling between the ages of 14 and 16 years old. The majority of participants were of Swiss nationality (71%) with French being the predominantly spoken language at home (84%). In terms of family structure, 71% of participants reported coming from intact homes (i.e., living with both biological parents), 24% from separated/divorced families, and 5% from other family structures (e.g., one parent deceased). Overall, 1.86% of the data was missing. This information was likely to be missing at random, as Little's MCAR-test was non-significant [$\chi^2(181)=199.66$, ns]. Therefore, missing data was dealt with through a procedure of Full Information Maximum Likelihood (FIML; Enders & Bandalos, 2001).

Measures

French versions of all questionnaires were administered, which, for the majority of scales, were already available. For those that were not, a back translation procedure in accordance with the International Test Commission was employed (Hambleton, 2001).

Identity. Personal identity formation was assessed using the 25-item Dimensions of Identity Development Scale (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008; Zimmermann et al., 2015). This self-report questionnaire evaluates identity processes in relation to adolescents' future plans and ideas for future life paths. Items were rated on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include: 'I have decided on the direction I want to follow in my life' (Commitment Making; 5 items); 'I sense that the direction I want to take in my life will really suit me' (Identification with Commitment; 5 items); 'I think actively about different directions I might take in my life' (Exploration in Breadth; 5 items); 'I regularly talk with other people about the plans for the future I have made for myself' (Exploration in Depth; 2 items); 'I think about whether the aims I already have for my life, really suit me' (Reconsideration of Commitment; 3 items); 'I keep wondering, which direction my life has to take' (Ruminative Exploration; 5 items). Cronbach's alphas were comparable to those found in other studies (e.g., Skhirtladze et al., 2016; Zimmermann et al., 2015): .88 for commitment making, .86 for identification with commitments, .80 for exploration in breadth, .35 for exploration in depth, .57 for reconsideration of commitment and .81 for ruminative exploration. While exploration in depth demonstrated a lower reliability than the other scales, given that alpha coefficients decrease with fewer items (Iacobucci & Duhachek, 2003) and that this scale has only two items, this alpha was considered acceptable given that the inter-item correlations was .21 ($p < .001$), which is comparable to previous research (e.g., Zimmermann et al., 2015). Confirmatory Factor Analyses (CFA) were performed to check the factor structure of each questionnaire. Model fit was evaluated using the combined cutoff of .06 for the root mean square error of approximation (RMSEA) and .08 for the standardized root mean

square residual (SRMR) (Hu & Bentler, 1999). The comparative fit index (CFI) of 0.95 was also used as an indicator of good model fit (Marsh et al., 2004). A CFA indicated that the six-factor model fit the data adequately, $\chi^2(258) = 879.34$; $p < .001$, SRMR = .06, RMSEA = .05, CFI = .94.

Perceived coparenting. Adolescent perceptions of coparenting were assessed using the cooperation and triangulation subscales of the parental dyad sub-section of the Coparenting Inventory for Parents and Adolescents (CI-PA; Teubert & Pinquart, 2011a). Adolescents completed the 4-item parental cooperation subscale (e.g., 'If I have a problem, my parents solve it together') and the 4-item triangulation subscale (e.g., 'I get involved in my parents' arguments'). Items were responded to on a 5-point Likert scale, ranging from 0 (*not at all true*) to 4 (*completely true*). The subscales demonstrated high levels of internal consistency ($\alpha = .82$ for cooperation and $\alpha = .83$ for triangulation). The CI-PA demonstrated a satisfactory model fit, $\chi^2(19) = 67.83$; $p < .001$, SRMR = .05, RMSEA = .05, CFI = .98.

Perceived parenting. Adolescents also reported on their perceptions of parental autonomy support and dependency-oriented and achievement-oriented psychological control. Items of all subscales were rated on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Autonomy support was assessed using seven items from the Autonomy Support subscale of the Perceptions of Parents Scale (POPS; e.g., 'My mother/father helps me to choose my own direction'; Grolnick, Ryan, & Deci, 1991; Mantzouranis, Zimmermann, Biermann-Mahaim, & Favez, 2012). Cronbach's alpha was .74 and a CFA indicated an adequate fit of the one factor model, $\chi^2(21) =$

1153.41; $p < .001$, SRMR = .03, RMSEA = .05, CFI = .97. The two subtypes of psychological control were assessed using the 17-item Dependency-Oriented and Achievement-Oriented Psychological Control Scales (DAPCS; Soenens, Vansteenkiste, & Luyten, 2010; Mantzouranis et al., 2012). Sample items include: 'My parents are only happy with me if I rely exclusively on them for advice' (dependency-oriented psychological control, 8 items) and 'My parents are less friendly with me if I perform less than perfectly' (achievement-oriented psychological control, 9 items). Both subscales demonstrated acceptable internal consistency ($\alpha = .78$ for DPC and $\alpha = .91$ for APC). A CFA revealed an acceptable fit, $\chi^2(116) = 567.54$; $p < .001$, SRMR = .05, RMSEA = .06, CFI = .92.

Results

Preliminary Analyses

Descriptive statistics and correlations among study variables are presented in Table 4.1. To examine the potential role of background variables, a multivariate analysis of covariance (MANCOVA) was conducted with gender and family structure as independent fixed variables, age as covariate, and the dimensions of coparenting, parenting, and identity as dependent variables. A significant multivariate effect based on Wilk's Lambda was obtained for age [$F(11, 977) = 3.50, p < .05, \eta^2 = .04$], gender [$F(11, 977) = 8.78, p < .001, \eta^2 = .09$], and family structure [$F(11, 977) = 14.92, p < .001, \eta^2 = .15$]. Subsequent univariate analyses were completed, indicating that older adolescents perceived more parental achievement-oriented psychological control [$F(11, 977) = 15.68$,

p < .01, *b* = .17], more dependency-oriented psychological control [*F*(11, 977) = 9.57, *p* < .01, *b* = .11] as well as less parental autonomy support [*F*(11, 945) = 9.39, *p* < .01, *b* = -.10]. Older adolescents also expressed more reconsideration of commitment as compared to younger adolescents [*F*(11, 977) = 6.17, *p* < .01, *b* = .11]. Furthermore, as for family structure, more cooperation as well as less triangulation and achievement-oriented psychological control were reported in intact families as compared to non-intact families (see Table 4.2). Lastly, girls demonstrated more exploration in breadth, ruminative exploration, exploration in depth, and reconsideration of commitment and less commitment making, identification with commitment and parental achievement-oriented psychological control, as compared to boys. Given these results, we controlled for age, gender, and family structure in the primary analyses.

Table 4.1

Means, Standard Deviations, and Correlations Among Variables

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Cooperation	3.90	1.05										
2. Triangulation	2.19	1.11	-.38**									
3. AS	3.76	.64	.36**	-.26**								
4. DPC	2.38	.71	-.16**	.31**	-.34**							
5. APC	1.89	.86	-.27**	.30**	-.55**	.57**						
6. CM	3.80	.86	.11**	-.06*	.21**	-.04	-.08**					
7. IC	3.84	.72	.14**	-.08**	.21**	-.04	-.08**	.66**				
8. EB	3.01	.97	.07*	.07*	.13**	.03	-.02	.22**	.25**			
9. ED	3.63	.80	.13**	.02	.27**	-.03	-.13**	.40**	.40*	.34**		
10. RE	3.64	.85	-.10**	.11**	-.15**	.13**	.13**	-.50**	-.42**	.19**	-.10**	
11. RC	3.21	.90	-.03	.09**	-.04	.16**	.12**	-.02	-.02	.28**	.25**	.39**

Note. CM= Commitment Making; IC= Identification with Commitment; EB= Exploration in Breadth; RE= Ruminative Exploration; ED= Exploration in Depth; RC= Reconsideration of Commitment; AS= Autonomy Support; DPC= Dependency Oriented Psychological Control; APC= Achievement Oriented Psychological Control. *p < .05; **p < .01.

Table 4.2

Mean Differences on Study Variables, as a Function of Gender and Family Structure

	Gender			Family Structure		
	Male	Female	$F(1, 977)$	Intact	Non-Intact	$F(1,977)$
Cooperation	3.68	3.68	.01	3.24	4.12	152.61***
Triangulation	2.23	2.33	1.88	2.46	2.10	20.30***
AS	3.78	3.70	1.53	3.72	3.80	2.89
DPC	2.41	2.36	1.63	2.43	2.34	3.43
APC	1.97	1.83	6.63*	1.96	1.83	4.72*
CM	3.87	3.75	4.93*	3.79	3.83	.39
IC	3.73	3.50	20.21***	3.56	3.66	3.31
EB	3.78	3.90	7.57**	3.83	3.85	.09
ED	3.55	3.67	4.81*	3.55	3.66	3.34
RE	2.81	3.18	36.98***	3.02	2.97	.56
RC	3.04	3.35	30.98***	3.20	3.19	.07

Note. CM= Commitment Making; IC= Identification with Commitment; EB= Exploration in Breadth; RE= Ruminative Exploration; ED[a]= Exploration in Depth; RC= Reconsideration of Commitment; AS= Autonomy Support; DPC= Dependency Oriented Psychological Control; APC= Achievement Oriented Psychological Control. *$p < .05$; **$p < .01$; ***$p < .001$.

Structural Relations Between Coparenting, Parenting, and Identity

Structural equation modeling (SEM) was used to test the hypothesized model, using robust maximum likelihood estimation in Mplus 7.00 (Muthén & Muthén, 2012). We modeled our variables as latent variables, which were indicated by three parcels each, composed of randomly assigned items of the appropriate scales.

The estimated measurement model yielded a good fit, $\chi^2(409) = 1012.13$, $p < .001$; RMSEA = .04; SRMR = .04; CFI = .96, with high factor loadings for all indicators (ranging between .40 and .94, $p < .001$), demonstrating that latent variables were successfully related to the observed variables. We then tested the hypothesized model, in which each of the coparenting variables were modeled as predictors of the parenting variables, which in turn were modeled as predictors of the identity variables. Correlations between variables at the same level were allowed. The final structural model fit the data well, $\chi^2(535) = 1318.93$, $p < .001$; RMSEA = .04; SRMR = .05; CFI = .95, and is shown in Figure 4.2. In general, both coparenting variables were related to specific aspects of parenting, which were in turn related to specific identity dimensions. More specifically, perceived coparental cooperation was found to relate to more autonomy-supportive parenting and to less achievement-oriented psychological control. Perceived coparental triangulation, on the other hand, was related to less autonomy-supportive parenting and more achievement- and dependency-oriented psychological control. Perceived autonomy-supportive parenting, in turn, was related to more commitment making, identification with commitments, exploration in breadth, and

Figure 4.2. Structural model of the relationship between coparenting (cooperation and triangulation), parenting (autonomy support (AS), dependency oriented psychological control (DPC), and achievement oriented psychological control (APC)), and identity dimensions (commitment making (CM), identification with commitments (IC), exploration in breadth (EB), ruminative exploration (RE), exploration in depth (ED), and reconsideration of commitment (RC)). *p < .05; **p < .01; ***p < .001

exploration in depth and less ruminative exploration. Furthermore, perceived parental dependency-oriented psychological control was related to more ruminative exploration and reconsideration of commitments. Achievement-oriented psychological control, by contrast, did not relate significantly to any of the identity dimensions.

Multigroup comparisons were performed to test whether the structural model would hold across age, gender, and family structure. Comparison of the constrained and unconstrained models were tested based on differences in CFI (ΔCFI), which should be less than .01 (Cheung & Rensvold, 2002). First, we tested for measurement equivalence across groups by comparing a freely estimated model (unconstrained) with a constrained model in which factor loadings were set equal between groups. When measurement invariance was obtained, structural models were compared, by comparing a freely estimated model (with all structural paths set free) and a constrained model (with all paths set equal across groups). For age, gender, and family structure, multigroup comparison provided evidence for measurement equivalence [ΔCFI = .000; ΔCFI = .001; ΔCFI = .001; for age, gender and family structure respectively], suggesting that scales were interpreted in the same way independent of age, gender and whether adolescents were from intact or non-intact families. Evidence for structural equivalence was also obtained across age, gender, and family structure [ΔCFI = .000; ΔCFI = .001; ΔCFI = .003], suggesting that the structural relations presented in Figure 4.2 are valid across age, gender and intact and non-intact families.

Discussion

The present study sought to provide a more comprehensive understanding of how the family environment contributes to adolescent identity formation by explicating the relationship between coparenting, parenting, and adolescent identity processes. While the findings from numerous studies have established the importance of parenting for adolescent personal identity (Beyers & Goossens, 2008; Luyckx, Soenens, Goossens, et al., 2007; Luyckx, Soenens, Vansteenkiste, et al., 2007), to our knowledge, the present study is the first to bring to light the role of coparenting as a family systems dynamic in regards to adolescent identity. Coparenting takes account of the individuals in a family within a larger family system and can thus provide a clearer idea of the overall family environment as compared to parenting which focuses specifically on the unique relationship between each parent and child. Results of the present study largely supported the hypothesized model, finding perceived coparental cooperation and coparental triangulation to be associated with each of the personal identity dimensions. These associations held true for age, gender as well as for adolescents who lived with both biological parents and for those whose parents were no longer together.

In line with previous research and the hypothesized model, more adaptive coparenting was associated with more adaptive parenting (Bonds & Gondoli, 2007; Easterbrooks & Emde, 1988). Parents who were perceived as more cooperative in their coparenting relationship were also perceived as being more supportive of their adolescents' autonomy and less psychologically controlling in regards to achievement, creating an atmosphere of collaboration, acceptance, and support. Conversely, adolescents who perceived their parents as using more triangulation also reported more

dependency-oriented and achievement-oriented psychological control and less autonomy support. In other words, these adolescents experience a familial environment that is more manipulative and controlling. These associations between coparenting and parenting provide further support for a potential spillover from one familial relationship to another as theorized by the spillover hypothesis (Erel & Burman, 1995), that is, negative interactions between parents in their coparental relationship may spill over into the parental relationship resulting in more negative interactions between parent and child. This spillover is not limited to negative interactions, but a positive spillover may also be observed between coparenting and parenting. It thus seems that, while these two subsystems are unique from one another (Belsky et al., 1996; Caldera & Lindsey, 2006), they are intimately related.

In regards to the main goal of the present study, the family system as a whole was associated with the intrapsychic development of adolescents, as alluded to by Bowen (1978). More specifically the way that parents collaborate in their child rearing responsibilities appears to have an influence on their adolescent's intrapsychic world via the parenting relationship the adolescent has with each of their parents. Autonomy-supportive parenting seemed to encourage the proactive processes of identity formation and, more specifically, commitment making, identification with commitment, exploration in breadth, and exploration in depth. Thus, when parents acted in a way that was encouraging of self-directed exploration in line with their adolescent's personal interests and values, adolescents were in turn better able to explore different identity possibilities, form initial commitments, and ultimately identify with and integrate these commitments into their sense of identity (Ryan & Deci, 2000a; Soenens et al., 2007). Furthermore, a lack of autonomy-supportive parenting seemed to promote ruminative exploration in

adolescents. When parents gave less support to their adolescents to pursue goals and desires that were in line with the adolescents' personal values, adolescents had a harder time with the developmental process of identity formation, demonstrating a constant cycle of worry over identity related decisions and an inability to close the exploration process. In this light, autonomy-supportive parenting appears to be of particular importance. Not only does its presence promote a positive resolution of this developmental task, a lack thereof appears to leave adolescents in a state of worry over identity related issues. This may suggest that it is important for adolescents to feel supported but not controlled by their parents. When adolescents feel supported it may provide them with a sense of security to explore identity possibilities, whereas if they feel unsupported or alone with this difficult task, the number of identity related possibilities may be experienced as overwhelming, leaving adolescents in a state of indecisiveness out of fear of making the wrong decision.

One specific dimension of identity formation that has demonstrated contradictory results in past studies in regards to parenting is that of exploration in breadth. Past findings have suggested autonomy supportive parenting to be negatively related to exploration in breadth and psychologically controlling parenting to be positively related to exploration in breadth (Beyers & Goossens, 2008; Luyckx, Soenens, Vansteenkiste, et al., 2007). The results of the present study are not in line with previous empirical results as parental autonomy support was found to be related to more exploration in breadth and parental dependency-oriented psychological control to be unrelated to broad exploration. Furthermore, dependency-oriented psychological control was found to be positively associated with ruminative exploration. These results are, however, in line with the recent distinction between a proactive exploration in breadth and a dysfunctional ruminative

exploration (Beyers & Luyckx, 2016; Luyckx, Schwartz, Berzonsky, et al., 2008). In fact, these results may provide further clarification as to the once "contradictory" aspects of exploration in breadth, finding it to be related to both adaptive (e.g., openness) and maladaptive (e.g., anxiety and depression) outcomes (Kidwell et al., 1995; Luyckx, Soenens, et al., 2006). Thus, adolescents whose parents use more manipulative techniques express more maladaptive exploration, whereas, adolescents whose parents are supportive of their autonomy express more broad exploration. Given that past studies in which researchers explored the association between parenting dimensions and exploration in breadth did not make the distinction between exploration in breadth and ruminative exploration, the results of the present study provide new empirical support for this distinction in relation to parenting.

Contrary to our hypotheses, only dependency-oriented psychological control and not achievement-oriented psychological control was related to identity processes. More specifically, dependency-oriented psychological control was associated with more maladaptive exploration (i.e., ruminative exploration and reconsideration of commitment) and unassociated with adaptive exploration. These findings are in contrast to the recent findings of Ingoglia, Inguglia, Liga, and Lo Coco (2017), whom found achievement-oriented psychological control to be uniquely associated with identity and unrelated to dependency-oriented psychological control. This may be partially due to a methodological difference between the two studies. Specifically, Ingoglia and colleagues (2017) consisted of emerging adults for whom the issue of academic success may be central for parents, as compared to adolescents for whom issues may center more so around independence. Parents high in dependency-oriented psychological control typically attempt to encourage their children to maintain a certain dependency on them

(Soenens et al., 2010). This type of control would particularly impede adolescents in their individuation process and their ability to be in-touch with their personal desires. Indeed, as the present results suggest, dependency-oriented control seems to especially hamper adolescents' exploration of appropriate identity alternatives, leaving them in a process of continuous self-doubt and reconsideration. In terms of achievement-oriented psychological control, this type of control may be experienced by teenagers as something relatively normative, given the constant pressure they receive from numerous sources (i.e. parents, school, society, etc.) to achieve (Currie et al., 2009; Gilliéron Giroud, 2012) and may become of greater importance during emerging adulthood (Ingoglia et al., 2017). However, these results do not suggest that achievement-oriented psychological control has no effect on adolescents, but rather may be associated with other outcomes, such as internalizing difficulties (Ingoglia et al., 2017).

Overall, our findings suggest two potential pathways relating coparenting with adolescents' personal identity processes: an adaptive and a maladaptive pathway (Cordeiro et al., 2018). In the adaptive pathway, coparental cooperation promotes autonomy-supportive parenting, which ultimately encourages adolescents to engage in healthy identity formation (i.e., commitment making, identification with commitment, exploration in breadth, and exploration in depth) as well as less ruminative exploration. Thus, when parents are able to work cooperatively creating a feeling of collaboration within the family, parents are better able to support their adolescents volitional functioning, which then ultimately results in healthier psychological development. Conversely, in the maladaptive pathway, coparental triangulation is carried over and expressed via the use of dependency-oriented psychological control with parents ultimately undermining adolescents' identity formation, as these adolescents rely on the

maladaptive identity processes of ruminative exploration and reconsideration of commitment. Coparents who seek to pull their child into a coalition against the other parent, intrude on their child's intrapsychic development through the use of techniques such as psychological control. These two pathways are in line with Bowen's (1978) postulations and highlight the importance of not only considering families as being composed of the unique parent-child relationship, but also the importance of taking into account the triadic coparental subsystem and the intricacies of interaction between these subsystems on adolescent development. The way in which coparents collaborate in their role of the raising of their child has important consequences of the intrapsychic development of their child. This association between coparenting and adolescent identity formation appears to act via the parenting relationship each parent has with their child.

Limitations and Future Research

Although the results of this study aid in the elucidation of the role of coparenting in identity formation, a number of shortcomings and potential directions for future work must be considered. First, the present study used a single-informant self-report methodology. While self-report has been deemed the most appropriate for the gathering of information concerning internal and subjective processes such as identity, in regards to parenting and coparenting, a multi-informant design may provide a more complete comprehension as to these external processes. Furthermore, the use of a multi-method approach, for example a combination of observational and self-report data, could provide additional information in regards to participant bias.

Second, in our assessment of perceived parenting and coparenting, we did not differentiate between mothers and fathers, but instead instructed adolescents to respond

in regards to their mother and/or father in an attempt to get at the general parenting relationship. Authors of previous studies have, however, reported differential effects of mothers and fathers in regards to the relation between parenting and adolescent identity formation (Benson et al., 1992; Beyers & Goossens, 2008). Further, although we did not obtain evidence for moderation by gender, some researchers suggest that mothers and fathers potentially have a differential effect on daughters and sons (Beyers & Goossens, 2008). For this reason, future research should have adolescents respond in regard to their mother and father separately.

Another area of future work would be to explore the longitudinal relationship between coparenting and adolescent personal identity processes. Given the cross-sectional nature of the present study, "causal" conclusions cannot be drawn, however, longitudinal examination of these relationships, would permit an examination of these dynamics over time as well a further exploration into the potential bidirectional influences. This is, certain identity processes also may elicit certain parenting and coparenting behaviors (Beyers & Goossens, 2008; Luyckx, Soenens, Goossens, et al., 2007; Luyckx, Soenens, Vansteenkiste, et al., 2007). For instance, more commitment may elicit more parental support (Beyers & Goossens, 2008).

Future research may also focus more strongly on specific types of family constellations, such as single-parent or step-parent families. Our sample consisted of mostly two-parent biological families, therefore, one should be cautious about making inferences about more specific family constellations. Furthermore, families are not only made up of intergenerational relationships (i.e., parent-child), but can also include intragenerational relationships (i.e., between siblings). Exploring the importance of sibling relationships in regards to identity formation would be of great interest given the

potential modeling effect between siblings (Bandura, 1977), which thus far remains mostly unexplored (see Crocetti et al., 2017).

Conclusion

In conclusion, the present study provides initial support for the importance of the coparenting for adolescent personal identity formation. In the present study, we found that perceived coparental triangulation was related to ruminative exploration and reconsideration of commitment through perceived dependency-oriented psychological control. Furthermore, perceived coparental cooperation was positively related to commitment making, identification with commitment, exploration in breadth, and exploration in depth and negatively related to ruminative exploration via perceived autonomy-supportive parenting. Thus, the family environment is made up of a number of interacting relationship, which taken together can help elucidate the effect of the family context on adolescent development.

Chapter 5

Intergenerational similarity in maladjustment via parenting and identity formation in a community sample of mothers and their adolescent children[7]

Children of depressed and stressed out parents are more likely to suffer from depressive symptoms themselves, however, the normative developmental processes that are put in jeopardy and that may be at the root of the resulting manifestations of depressive symptoms remain largely unexplored during adolescence. Based on a developmental psychopathology framework, the aim of the present study was to investigate the transgenerational similarity in maladjustment in a community sample of mothers via impairments to their parenting, and the implications this has on adolescent identity formation, and ultimately adolescent adjustment. Using a multi-informant design, 187 adolescents (M_{age}=16.46) and their mothers (M_{age}=47.84) completed self-report questionnaires, with mothers reporting on their depressive symptoms and stress levels (parental mental load), and adolescents on perceived parenting, their identity formation, and their depressive symptoms. Structural equation modeling was used to test the hypothesized model in which parental mental load would be associated with perceived parenting difficulties, which in turn would relate to impairments in identity formation, and ultimately adolescent depressive symptoms. Parental mental load was associated with

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lower levels of autonomy supportive parenting and higher levels of psychologically controlling parenting. Furthermore, increased psychologically controlling parenting lead to impairments in identity formation and ultimately to increased levels of adolescent depressive symptoms. Thus, one possible path of similarity in maladjustment in mother and child appears to be via impairments to adolescent identity formation. Given the potentially important consequences on adolescents, these results underscore the importance of interventions focused on aiding adolescents with their identity formation as well as parents struggling with mental health issues.

Introduction

Children of depressed and stressed out parents are at greater risk of suffering from depression, including subclinical depressive symptomatology (Connell & Goodman, 2002; Duggal et al., 2001; Hammen, 1997). In fact, children of depressed parents have been found to not only be at increased risk for depression, but for a number of developmental difficulties including insecure attachment (McMahon et al., 2006), emotion dysregulation (Loechner et al., 2020), and decreased social competence (Yang & Williams, 2021). This increased risk is not negligible, being estimated at two to three times higher than for children of non-depressed parents (England & Sim, 2009; Weissman & Boyd, 1985). By the end of adolescence, roughly 20% of teenagers will experience depressive symptoms (Hankin, 2006). Similarly, depression is highly common in parents (England & Sim, 2009), with the incidence of a mood disorder being experienced at least once in a lifetime in women of child-bearing ages being estimated at 24% (Kessler et al., 1994). Thus, many children are exposed to parental depressive symptoms and the

associated disruptions to parenting (Brennan et al., 2003). For this reason, much research has examined how parental psychopathology may be transmitted to children.

In this light, the principle of equifinality has been evoked, which states that there is not one specific pathway from parental impairment to child impairment, but rather a number of potential pathways that may exist leading to the common end point of maladjustment (Cicchetti & Rogosch, 1996). Such pathways may include: direct genetic transmission from parent to child, direct environmental transmission via exposure to a parent's maladaptive cognitions, behaviors, and affect, or as a result of exposure to a stressful environment created as a result of parental depression, for example marital discord (Goodman & Gotlib, 1999). In a developmental psychopathology framework, maladaptation is not seen as inherent to the individual, but rather as a consequence of the dynamic relationship that is established between an individual and their internal and external contexts (Sameroff, 2000). Thus, while much of the focus has been given to the genetic transmission of psychopathology (for a review see Rice et al., 2002), developmental psychopathology has been increasingly interested in models of environmental transmission, and more specifically how psychopathology may impact family relationships leading to disruptions in parenting and ultimately to maladaptive outcomes in children (Dodge, 1990; Goodman & Gotlib, 1999).

In this regard, support for impaired parenting as a result of parental adjustment difficulties has been plentiful. In general, clinical observations have suggested that depressed and stressed mothers demonstrate reduced parenting quality including being more likely to be impatient, critical, and unsupportive of their children (Goodman et al., 1994; Hammen et al., 1990), spending less time mutually engaged with their children (Goldsmith & Rogoff, 1997), and engaging more often in psychologically controlling

parenting (Rogers et al., 2020).The majority of these studies, however, have focused on the relationship between maternal adjustment and its potential effects on infants and young children (e.g., Goodman et al., 1993; Teti et al., 1995). Thus, while much research has focused on impairments in specific developmental tasks of infancy and childhood as a result of maternal depression, such as maladaptive parent-child attachment (Teti et al., 1995), less attention has been given to the repercussions of parental adjustment on adolescents and the specific developmental processes at play during this period.

Adolescence is a particular developmental period separate and unique from childhood, bringing with it its own specific set of challenges, including the movement towards increased autonomy, independent functioning, and the definition of one's identity (Steinberg & Morris, 2001). In this light, Cicchetti and Rogosch (2002) emphasize the importance of taking into account processes at play in normative adolescent development in order to understand the development of maladaptation during that specific developmental period. Thus, it is important to apply knowledge of normative adolescent development for the delineation of developmental processes that may be at the root of the resulting psychopathology (Cicchetti & Rogosch, 2002). With this in mind, the focus of the present study was to explore the role of the central developmental task of adolescence, the differentiation of one's personal identity, as it relates to maternal psychological adjustment, parenting, and ultimately to adolescent adjustment.

The Key Developmental Task of Adolescence: Personal Identity Formation

In Erik Erikson's (1950, 1968) psychosocial theory of human development, the construction of one's personal identity is conceptualized as the key developmental task of adolescence. In an attempt to construct their sense of self and figure out how they fit

in the social world adolescents may ask themselves such questions as: Who am I? What do I want to do with my life? Am I on the right path to achieving these things? A well-developed sense of self provides adolescents with a feeling of inner continuity, which will help guide them throughout their life (Erikson, 1950). In Erikson's original conceptualization of the adolescent identity crisis, two poles were distinguished, namely identity synthesis and identity confusion (Erikson, 1968). Identity synthesis is achieved following the exploration of available opportunities and the making of certain commitments (Erikson, 1950). On the other hand, identity confusion, or a lack of identity, describes individuals who experience sustained incoherence and an inability to commit (Erikson, 1968).

Inspired by the ground breaking work of Erikson (1950, 1968) and Marcia (1966), identity researchers have more recently been interested in differentiating the processes at play in identity development (Luyckx, Goossens, Soenens, et al., 2006; Meeus, 1996). One such model is that of Luyckx and colleagues (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008), who empirically distinguished five identity processes: exploration in breadth, exploration in depth, commitment making, identification with commitment, and ruminative exploration. Exploration in breadth refers to a general exploration of identity alternatives, while exploration in depth represents a thorough exploration of commitments that one has already enacted. Commitment making refers to the adherence to a set of values, whereas identification with commitment, refers to the degree to which one identifies with and has integrated identity commitments into one's sense of self. Lastly, ruminative exploration captures a maladaptive type of exploration characterized by indecisiveness and indecision. More recently, a sixth process has been added to this model, namely reconsideration of

commitment (Albert Sznitman, Zimmermann, et al., 2019b; Crocetti, Rubini, & Meeus, 2008; Skhirtladze et al., 2016), which represents adolescents' uncertainty and rethinking of already formed commitments for other alternatives. Furthermore, these identity processes can be understood to represent both the adaptive (i.e., commitment making, identification with commitment, exploration in breadth, exploration in depth) and maladaptive (i.e., ruminative exploration, reconsideration of commitment) sides of identity formation.

Consequences of Identity Formation on Adolescent Adjustment

The potential detrimental consequences of a lack of clear and synthesized identity have been of interest since the conceptualization of Erikson's identity crisis (Erikson, 1950; Kernberg, 2006; Marcia & Josselson, 2013). More recently, there has been new found interest in regard to the role identity formation may play in the development of psychopathology, with identity disturbances being suggested as a potential underlying impairment (Kaufman et al., 2014; Kernberg, 2006; Klimstra & Denissen, 2017). Indeed, identity disturbances have recently been explicitly recognized in the fifth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) as a major factor in the development and course of psychopathology.

In this light, several studies have investigated the association between identity processes and depression in adolescents (e.g., Becht et al., 2019; Beyers & Luyckx, 2016; Luyckx, Klimstra, Duriez, Van Petegem, & Beyers, 2013). In general, commitment making and identification with commitment have shown positive associations with adjustment, including lower levels of depression (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Klimstra, Duriez, Van Petegem, & Beyers, 2013; Luyckx, Schwartz, et

al., 2010). Thus, when adolescents are able to make firm commitments and integrate them into their sense of self, they are less likely to be confronted with depressive symptomatology. Exploration in breadth and exploration in depth have not consistently been associated with either adjustment or psychopathology, however, recent studies have found evidence that these identity processes are more likely to favor lower levels of depression (Beyers & Luyckx, 2016). On the other hand, ruminative exploration and reconsideration of commitment have consistently been associated with increased levels of depressive symptoms (Becht et al., 2019; Beyers & Luyckx, 2016; Luyckx, Schwartz, Berzonsky, et al., 2008). It has been suggested that the association between ruminative exploration and reconsideration of commitment with depressive symptoms may relate to the brooding, worrying, and uncertainty characteristic of these identity processes as well as key depressive symptoms (Beyers & Luyckx, 2016). Thus, the construction of a clear and integrated sense of self has very important consequences on adolescent well-being. When adolescents engage in healthy exploration and form commitments, they are at decreased risk for depression, however, when adolescents face difficulties in figuring out who they are and engage in maladaptive identity processes, this can lead to feelings of loss and despair, leaving them unsure as to who they are or what to do with their lives (Becht et al., 2019).

Parenting: Help and Hindrance to Identity Formation

Adolescents do not form their identity in a social vacuum, but rather, this developmental process is highly dependent on the resources provided to them by their environment (Erikson, 1968; Ferrer-Wreder & Kroger, 2020; Steinberg, 2001). In this regard, parents are of utmost importance to adolescent identity formation (Beyers &

Goossens, 2008). Two dimensions of parenting have been of particular interest in regard to identity development, that of autonomy supportive parenting and psychologically controlling parenting (Barber, 1996; Barber & Harmon, 2002b). Autonomy supportive parenting, refers to parenting that supports an adolescents' volitional functioning, encouraging them to act in ways that are in line with their own personal values and goals (Ryan & Deci, 2000a; Soenens et al., 2007). When parents are autonomy supportive, children are able to explore their own personal interests, engaging in exploratory behaviors that will ultimately help them in constructing a coherent sense of self (Soenens et al., 2007). Psychologically controlling parenting, on the other hand, refers to the use of intrusive techniques to pressure children to comply with parental standards, irrespective of the child's interests, goals, and values (Barber, 1996; Barber & Harmon, 2002b). Psychological control intrudes on an adolescents internal world, as children are pressured to put their parents' wishes above thinking about their own personal goals and values (Soenens & Vansteenkiste, 2010). Hence, these children are less in touch with their inner sense of self and have more difficulties in making identity coherent commitments (Luyckx, Soenens, Vansteenkiste, et al., 2007).

A number of studies have investigated the relationship between autonomy supportive and psychological controlling parenting with identity formation (Albert Sznitman, Van Petegem, et al., 2019; Beyers & Goossens, 2008; Luyckx, Soenens, Goossens, et al., 2007; Luyckx, Soenens, Vansteenkiste, et al., 2007). In general, autonomy supportive parenting encourages healthy exploration (i.e., exploration in breadth and exploration in depth) and commitment (i.e., commitment making and identification with commitment; Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Soenens, Goossens, et al., 2007) whereas psychological controlling parenting is more so

related to maladaptive forms of exploration, including ruminative exploration and reconsideration of commitment (Albert Sznitman, Van Petegem, et al., 2019; Luyckx, Soenens, Vansteenkiste, et al., 2007). Given that mothers who experience increased levels of stress as well as depressive symptoms are at risk for impaired parenting, they may be less likely to engage in autonomy supportive parenting and more likely to use a psychologically controlling approach to parenting (Rogers et al., 2020). This may ultimately have negative consequences on their adolescents' identity formation. Unfortunately, when adolescents lack a clear and synthesized identity the consequences to their adjustment can be very significant.

The Present Study

Using a developmental psychopathology approach, the present study aims to contribute to the recent call for empirical investigations of potential mechanisms of transmission of parental maladjustment to child maladjustment through the impairment to normative developmental processes (Cicchetti & Rogosch, 2002; Klimstra & Denissen, 2017). Whereas significant amounts of research have investigated how parental psychopathology effects infants and young children, far less research has looked at the effects on adolescents, especially in regard to the normative process of identity formation. Given the unique developmental processes at play during adolescence, we cannot simply generalize the effects observed during childhood to adolescents (Cicchetti & Rogosch, 2002), and thus it is imperative to investigate how parental maladjustment may effect adolescents during this developmental period.

Using a multi-informant design with a community sample of mothers and adolescents, we aimed to investigate whether parental maladjustment would be associated

with adolescent depressive symptoms via impairments to parenting and identity formation. While numerous studies have investigated aspects of the model separately (i.e. parental depressive symptoms and impairment to parenting or adolescent identity processes and adolescent depression), no study to date has tested a comprehensive model of such a developmental pathway between mother and child. Furthermore, the use of a community sample allows for the generalizability of results (Costello, 1993). While the majority of studies investigating such relationship focus on clinical samples, often representing more severe and adverse cases, focusing on a community sample allows for the more accurate representation of depressive symptoms and stress experienced by the average parent of an adolescent (Hammen et al., 2004).

The present study was guided by a number of hypotheses. Firstly, we expected that parental mental load, as indicated by depressive symptoms and stress, would be negatively associated with autonomy supportive parenting and positively associated with psychologically controlling parenting. We also expected autonomy supportive parenting to be positively associated with adaptive identity processes (exploration in breadth, commitment making, exploration in depth, and identification with commitment) and psychologically controlling parenting to be in turn positively associated with maladaptive identity processes (ruminative exploration and reconsideration of commitment). Lastly, we expected adaptive identity processes to be negatively associated with adolescent depressive symptoms and maladaptive identity processes to be positively associated with adolescent depressive symptoms.

Method

Participants and Procedure

Data from the present study is drawn from a longitudinal study conducted from 2015 to 2017 in the French-speaking part of Switzerland investigating parent-adolescent relationships and identity development in middle-adolescents. Adolescents in their final year of mandatory secondary school (i.e., 9th grade) at ten participating public state schools were invited to participate, along with their mothers, and received an informational letter explaining the purpose of the study, the confidential treatment of the data, and that their participation was voluntary and could be withdrawn at any time. Before study commencement, we obtained active informed consent from adolescents and passive informed consent from parents. The current investigation uses data from the fourth wave of this longitudinal investigation as only this data collection point included a measure of adolescent depression. Adolescents and parents were mailed questionnaire packages along with a prepaid return envelope and were instructed to complete questionnaires independently from other family members. The study protocol was reviewed and approved by the State Department of Education and was in compliance with the ethical code of the Swiss Psychological Society (SSP-SGP-SPS).

The present sample consisted of 187 adolescents (64.2% female) ranging in age from 15 to 18 years old (M_{age} = 16.46, SD = .49) and their mothers (M_{age} = 47.84, SD = 4.28). The majority of adolescents reported living with both biological parents (77%), while 20% of adolescents had parents that were separated, and 3% reported other family constellations. The majority of families were Swiss (92.5%) or from other countries of the European Union (mainly France, Belgium, Italy, and Portugal). In regards to education, 5% of mothers had a high school degree, while the majority (95%) had some

type of post-high school education (i.e., university or 4-year vocational degree). Overall, 2.19% of the data was missing. This information was likely to be missing at random, as Little's MCAR-test was non-significant [χ^2 (181)=199.66, *ns*]. Therefore, missing data was dealt with through a procedure of Full Information Maximum Likelihood (FIML; Enders & Bandalos, 2001).

Measures

All questionnaires were either available in French or translated in French in accordance with the guidelines of the International Test Commission (Hambleton, 2001).

Maternal depressive symptoms. Maternal depressive symptoms were assessed using the 8-item Patient Health Questionnaire (PHQ; Kroenke et al., 2009; Kroenke & Spitzer, 2002). The PHQ-8 is based on the commonly used PHQ-9 with the ninth item on suicidal ideation removed given that mothers completed these questionnaires at home and thus clinical intervention was not possible (Kroenke et al., 2009). Mothers were asked to indicate how often they experienced affective, somatic, and cognitive symptoms of depression during the two weeks prior to each assessment. Items were rated on a 4-point Likert scale from 0 (*not at all*) to 3 (*nearly every day*) with higher scores indicating higher levels of depressive symptoms. A sample item reads: 'Over the past two weeks how often have you been bothered by feeling down, depressed, or hopeless'. Cronbach's alpha was .84.

Maternal perceived stress. Maternal perceived psychological stress was assessed using the 10-item Perceived Stress Scale (Bellinghausen et al., 2009; Cohen & Williamson, 1988). This questionnaire assesses the extent to which people find their lives unpredictable, uncontrollable, and unmanageable. Participants were asked to indicate how often they over the one-month period prior to each assessment they felt or thought a certain way. Items were rated on a 5-point Likert scale from 0 (*never*) to 4 (*very often*), with higher scores indicating higher levels of perceived stress. A sample item reads: 'In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?'. The internal consistency was .90.

Perceived Autonomy Support. Adolescent perception of their mother's autonomy supportive parenting was assessed using the 7-item autonomy support subscale of the Perceptions of Parents Scale (POPS; Grolnick et al., 1991; Mantzouranis et al., 2012). Adolescents responded to items on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item reads: 'My mother helps me to choose my own direction'. As in previous studies (e.g., Soenens et al., 2007), it demonstrated adequate reliability ($\alpha = .77$).

Perceived Psychological Control. Adolescent perception of maternal psychological control was assessed using the 8-item dependency-oriented psychological control subscale of the Dependency-oriented and Achievement-oriented Psychological Control Scale (DAPCS; Mantzouranis et al., 2012; Soenens et al., 2010). The dependency-oriented subscale assesses psychological control that aims to maintain interpersonal closeness and relatedness. Adolescents responded to items on a 5-point

Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item reads: 'My mother is only happy with me if I rely exclusively on her for advice'. The scale demonstrated acceptable internal consistency (α =.86).

Adolescent Personal Identity Processes. The 25-item Dimensions of Identity Development Scale (Beyers & Luyckx, 2016; DIDS; Luyckx, Schwartz, Berzonsky, et al., 2008; Zimmermann et al., 2015) was used to assess processes of adolescent identity formation. The DIDS assesses identity work in relation to future plans and life paths. Adolescents responded to items on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items read: 'I have decided on the direction I want to follow in my life' (commitment making; 5 items); 'I sense that the direction I want to take in my life will really suit me' (identification with commitment; 5 items); 'I think actively about different directions I might take in my life' (exploration in breadth; 5 items); 'I regularly talk with other people about the plans for the future I have made for myself' (exploration in depth; 2 items); 'I keep wondering, which direction my life has to take' (ruminative exploration; 5 items); 'I think about whether my future plans match what I really want' (reconsideration of commitment; 3 items). Cronbach alphas were: .92, .91, .85, .59, .80, and .75, respectively for the identity processes. These internal consistencies were comparable to previous studies (Skhirtladze et al., 2016; Zimmermann et al., 2015).

Maternal depressive symptoms

Maternal perceived stress

Parental mental load

Autonomy support

Psychological control

Exploration in breadth

Commitment making

Exploration in depth

Identification with commitment

Ruminative exploration

Reconsideration of commitment
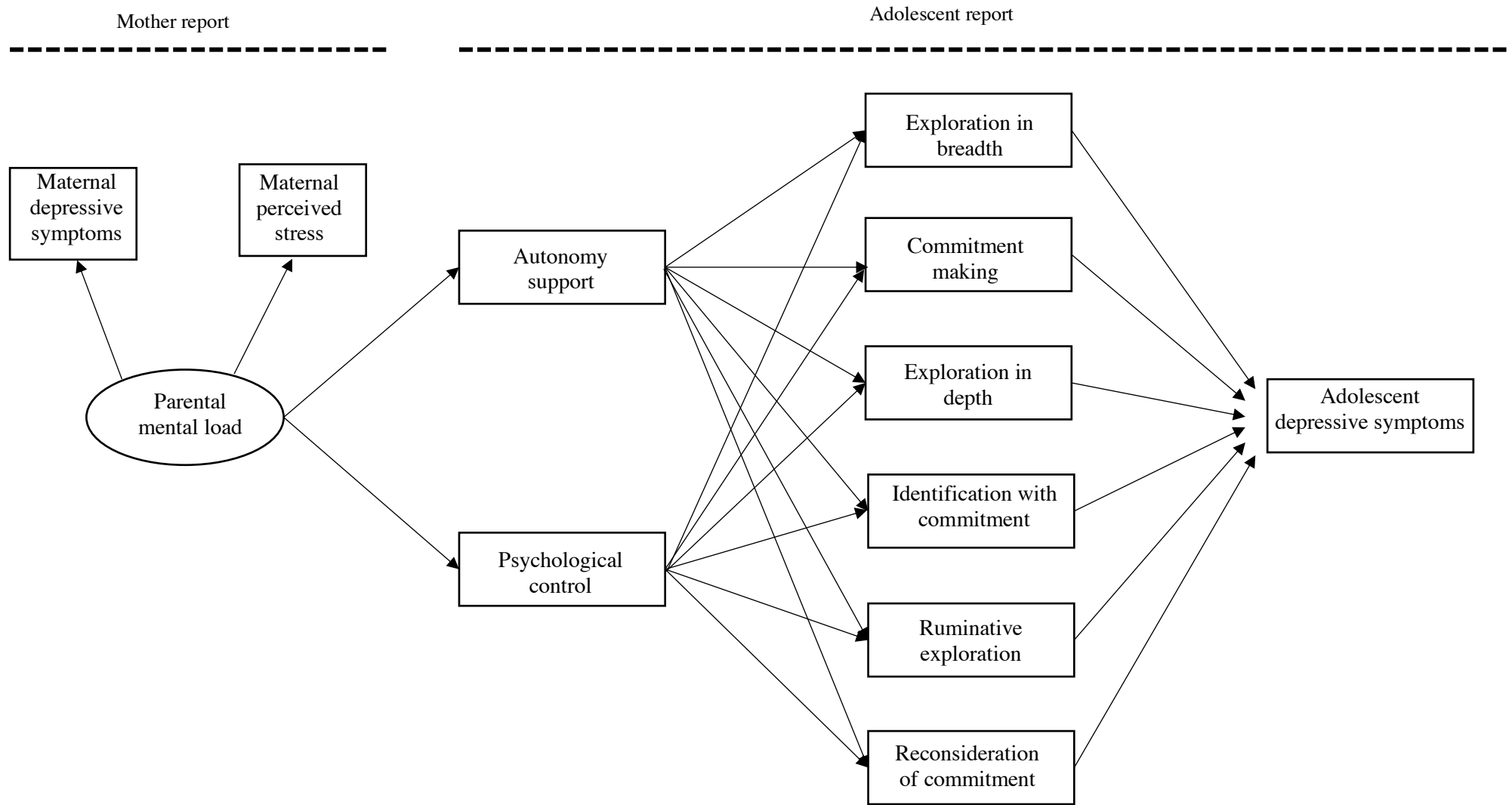
Adolescent depressive symptoms

Figure 5.1. Schematization of the hypothesized model of the intergenerational transmission of maladjustment

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Adolescent Depressive Symptoms. Adolescents reported on their depressive symptoms using the adolescent version of the 8-item Patient Health Questionnaire (Kroenke et al., 2009). Similar to the adult version of the PHQ-8, the adolescent version asks adolescents to report on the frequency with which they experienced different depressive symptoms within the past two works. Thus, adolescents respond to items using a 4-point Likert scale from 0 (*not at all*) to 4 (*nearly every day*). A sample item reads: 'Over the past two weeks how often have you been bothered by feeling down, irritable, depressed, or hopeless''. The scale demonstrated good reliability ($\alpha = .86$).

Data Analysis

We first carried out descriptive statistics including means, standard deviations, and correlations amongst study variables as well as preliminary analyses to investigate differences based on age and gender. We then tested our hypotheses using structural equation modeling in R 3.5.3 (R Core Team, 2016) with full-information maximum likelihood (Enders & Bandalos, 2001) estimation. A schematization of the hypothesized model is depicted in Figure 5.1. As depicted in Figure 5.1, we used a latent variable composed of maternal depressive symptoms and maternal stress to represent parental mental load. We used robust ML estimation (MLR) to deal with non-normality observed in some of our variables.

To evaluate model fit, we used the chi-square index, which should be as small as possible; the comparative fit index (CFI) with values higher than 0.90 indicative of an acceptable fit and values higher than 0.95 suggesting an excellent fit; the root-mean-square error of approximation (RMSEA) with values less than .08 indicative of an acceptable fit and values less than .06 suggesting a good fit; and the standardized root

Table 5.1

Means, Standard Deviations, and Correlations Among Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Commitment making	3.87	0.93	-										
2. Identification with commitment	3.68	0.87	.68***	-									
3. Exploration in breadth	3.82	0.78	.12	.22**	-								
4. Exploration in depth	3.70	0.88	.41***	.52***	.42***	-							
5. Ruminative exploration	2.74	0.93	-.58***	-.54***	.19**	-.16*	-						
6. Reconsideration of commitment	3.11	0.92	.02	.00	.26***	.28***	.32***	-					
7. Perceived psychological control	2.15	0.76	-.07	-.07	-.01	-.07	.14	.17*	-				
8. Perceived autonomy support	3.84	0.61	.13	.20**	.23**	.31***	-.05	.05	-.47***	-			
9. Adolescent depression	7.62	5.14	-.08	-.22**	-.08	-.20***	.19*	.08	.19*	-.40***	-		
10. Maternal depression	4.16	3.60	-.03	-.15*	-.14	-.08	.04	.06	.12	-.13	.11	-	
11. Maternal stress	14.61	5.77	.04	-.06	-.07	-.08	-.03	.12	.16*	-.18*	.05	.74***	-

Note.

mean square residual (SRMR), with values less than .10 indicative of an acceptable fit and values less than .08 suggesting a good fit (Hu & Bentler, 1999; T. D. Little, 2013).

Results

Preliminary Analyses

Means, standard deviations, and correlations between study variables are displayed in Table 5.1. Personal identity dimensions showed expected relations based on past research. Commitment making was positively related to identification with commitment and exploration in depth and negatively related to ruminative exploration. Identification with commitment was positively related to commitment making and exploration in depth and negatively related to ruminative exploration. Exploration in breadth was positively related to identification with commitment, exploration in depth, ruminative exploration, and reconsideration of commitment. Exploration in depth was related positively to all identity dimensions except ruminative exploration with which it was negatively related. Ruminative exploration was negatively related to all identity dimensions except for exploration in breadth and reconsideration of commitment with which it was positively related. Lastly, reconsideration of commitment was positively related to exploration in breadth, exploration in depth, and ruminative exploration. In regard to parenting, perceived psychologically controlling parenting was positively related to reconsideration of commitment, adolescent depression, and maternal stress, and negatively related to perceived autonomy supportive parenting. Perceived autonomy supportive parenting was

positively related to identification with commitment, exploration in breadth, exploration in depth, and negatively to psychologically controlling parenting. Adolescent depression negatively related to identification with commitment, exploration in depth, and autonomy supportive parenting, and positively to ruminative exploration and psychologically controlling parenting. Maternal depression and maternal stress demonstrated a very strong positive correlation.

Using multivariate analysis of covariance (MANCOVA) we investigated gender and age difference in the study variables, with sex as a fixed factor, age as a covariate, and study variables as dependent variables. A significant multivariate effect based on Wilk's Lambda was obtained for gender and age [Wilks' Lambda = .90, $F(9, 166) = 3.02$, $p < .01$ for gender; Wilks' Lambda = .95, $F(9, 166) = .95$, $p = .05$ for age]. Follow-up univariate analyses revealed five statistically significant results. Girls scored higher than boys on depressive symptoms [$M_{girl} = 8.29$, $M_{boy} = 6.45$; $F(1, 174) = 4.78$, $p = .03$], lower than boys on perceived psychological control [$M_{girl} = 2.07$, $M_{boy} = 2.30$; $F(1, 174) = 4.01$, $p = .05$], and higher than boys on exploration in breadth [$M_{girl} = 3.92$, $M_{boy} = 3.65$; $F(1, 174) = 4.84$, $p = .03$]. Finally, older adolescents scored higher on commitment making [$F(1, 174) = 4.78$, $p = .05$] and lower on ruminative exploration [$F(1, 174) = 4.78$, $p = .04$].

Primary Analyses: Testing the Hypothesized Model

We estimated a structural model to test the hypothesized model in which parental mental load would be associated with parenting, which in turn would relate to identity development in adolescents, and ultimately adolescent depressive symptoms (see Figure
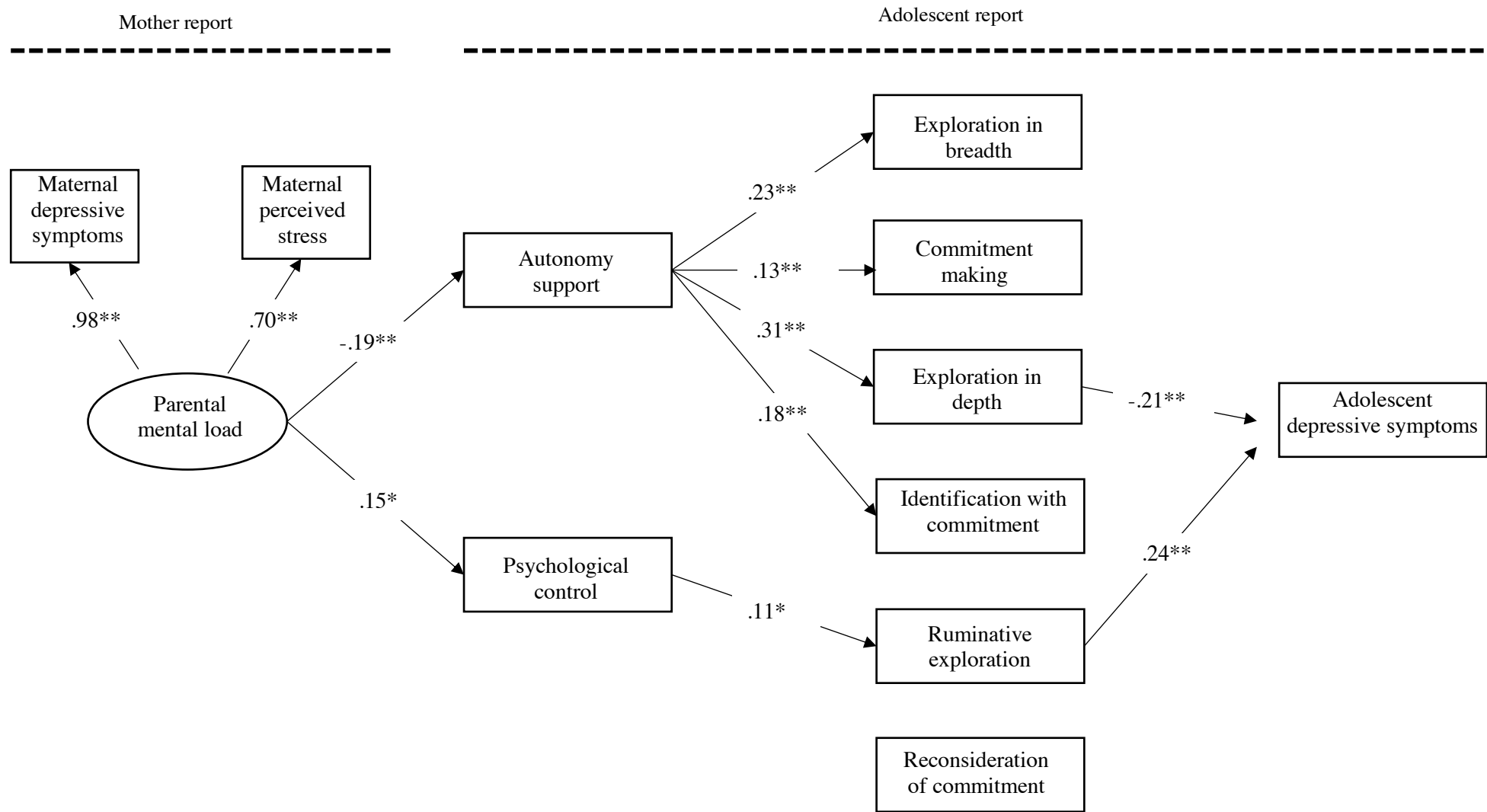
Figure 5.2. Final structural model linking maternal maladjustment, perceived parenting, identity processes, and adolescent depressive symptoms. [χ² (20) = 46.22, *p* < .001; CFI = .955; RMSEA = .08; SRMR = .06]

5.1). We first tested a model with all paths included, as depicted in our hypothesized model. This model demonstrated adequate fit (χ^2 (23) = 51.46, $p < .001$; RMSEA = .08; SRMR = .05; CFI = .96). In favor of parsimony, non-significant paths were trimmed from the model. This simplified model also demonstrated adequate fit (χ^2 (20) = 46.22, $p < .001$; RMSEA = .08; SRMR = .06; CFI = .96) with the test supporting an equally good fit to the data for this more parsimonious model (ΔCFI = .000).

The final model with standardized path coefficients is depicted in Figure 5.2. In regard to perceived parenting, parental mental load predicted decreased levels of perceived autonomy support and increased levels of psychological control. In turn, perceived autonomy support was associated with higher levels of commitment making, identification with commitment, exploration in breadth, and exploration in depth, whereas perceived psychological control was associated with increased level of ruminative exploration. In regard to identity processes, exploration in depth was associated with lower levels of adolescent depressive symptoms and ruminative exploration with higher levels of adolescent depressive symptoms.

Discussion

As put forth by Cicchetti and Rogosh (2002), adolescence is a particularly compelling developmental period during which the application of a developmental psychopathology framework to normative processes may be especially enlightening both for a more thorough understanding of the processes at play during adolescence as well as for the understanding of adolescent psychopathology and intergenerational similarity in maladjustment. While the majority of adolescents traverse this developmental period

without much disturbance (Hadiwijaya et al., 2017), others evidence maladaptation (Cicchetti & Rogosch, 2002). Thus, in the present study, guided by a developmental psychopathology framework, we examined the intergenerational similarity of maladjustment in a community sample of mothers and their adolescent children via the normative developmental task of identity development. Indeed, as suggested by the principle of equifinality (Cicchetti & Rogosch, 1996), one path of psychopathology transmission appears to be via the context provided by parents.

The present findings are consistent with previous longitudinal literature showing depressed and stressed out mothers to be more likely to engage in psychologically controlling parenting (Rogers et al., 2020; Scharf & Goldner, 2018).The increased use of psychological control by depressed mothers has been suggested as a strategy for them to attempt to regain some semblance of control over their family life (Pettit et al., 2001), especially during adolescence a time during which parents may already feel less close to their children (Steinberg & Morris, 2001). This increased use of psychological control, however, is at the detriment to the adjustment of their adolescent children. Furthermore, adolescents also perceived less autonomy supportive parenting when mothers suffered from maladjustment. Thus, mothers experiencing greater parental mental load were not only more controlling but were also perceived as less able to provide support in adolescents' volitional functioning. Indeed, in order for one to provide autonomy support one must be able to take on an empathetic perspective, something that appears to be difficult for those suffering from depression (Schreiter et al., 2013). Another possible explanation is that when mothers experience a higher parental load they have less energy to engage in the necessary aspects of autonomy supportive parenting, such providing possible alternatives (Grolnick et al., 1997). Therefore, while the majority of past research

has focused on the implication of clinical levels of depression on parenting, the present results highlight the importance of even subclinical levels of depression and stress on a parent's ability to engage in positive parenting and to provide the appropriate context to cultivate healthy identity development.

These findings are important as they suggest an association between identity construction difficulties as a result of parental mental load and resulting adolescent depressive symptoms. Indeed, it has been suggested that normative developmental processes hold high importance in regard to developmental psychopathology, in that when normative processes go awry it is probable that psychopathology will result (Cicchetti & Rogosch, 2002). In fact, those adolescents reporting increased use of ruminative exploration also reported higher levels of depressive symptoms. This relationship between identity disturbance and depressive symptoms has been reported longitudinally by Becht and colleagues (2019), whom provide support for a vulnerability model of association between identity and depressive symptoms. That is, as adolescents have more difficulties and become more stuck in their identity work, more depressive symptoms are reported (Becht et al., 2019; Luyckx, Duriez, et al., 2010). Interestingly, exploration in depth appeared to be a protective factor against depressive symptoms. That is, adolescents engaging in more in depth exploration in regard to identity commitments reported less depressive symptoms. One possible explanation for this may be that these adolescents are farther along on their identity formation process. More specifically, in line with the Luyckx dual-cycle identity model (Luyckx, Goossens, Soenens, et al., 2006), exploration in depth composes one of the two dimensions (the other being identification with commitment) of the second cycle, commitment evaluation, which serves to strengthen one's commitments (Luyckx, Klimstra, Duriez, Van Petegem, Beyers, et al.,

2013). Thus, more mature identity formation does appear to be associated with better adolescent adjustment. Overall, mothers who suffered from increased levels of parental mental load were perceived as less autonomy supportive and more psychologically controlling by their adolescents, which was then associated with adolescents expressing increased levels of maladaptive identity exploration and ultimately experiencing increased levels of depressive symptoms themselves.

Given that the results of the present study provide preliminary support for similarity in maladjustment in mothers and their adolescent children in a community sample, the clinical implications may be great. The average parent experiencing some depressive symptoms and moderate levels of stress may inadvertently be providing less optimal parenting than they would otherwise, with this having negative consequences on their adolescent children. Thus, it is important to address areas of intervention targeted at preventing such similarity of maladjustment. Two points of intervention may be possible, either by acting directly on supporting adolescents with their identity related issues or indirectly by working with parents to provide an autonomy supportive environment. While identity processes have demonstrated malleability in regard to certain identity counseling approaches (Schwartz, Kurtines, et al., 2005), long term effects have appeared harder to maintain (Ferrer-Wreder et al., 2002). Thus, another approach may be for counselors to focus on providing an autonomy-supportive environment for adolescents, including being empathic towards adolescents' needs and encouraging their volitional functioning (Luyckx et al., 2009), which may be lacking at home. In providing this autonomy supportive environment, especially for those adolescents whose parents are dealing with their own maladjustment, counselors can help adolescents become more aware of their authentic goals and values, ultimately aiding them in making identity

strides (Luyckx et al., 2009). Similarly, indirect intervention could also be provided to parents, working with them to develop strategies to continue to provide autonomy supportive versus psychologically controlling parenting during more difficult moments.

Limitations and Future Directions

While the present study provides novel insight into one potential pathway of intergenerational similarity of maladjustment, inevitably certain limitations must be taken into account. First, a major limitation is the cross-sectional design. The cross-sectional nature of the study limits the ability to truly investigate transmission, thus, we limit our discussion to similarity in adjustment between mother and adolescent. Importantly, while the present study investigates only one direction of effect, previous longitudinal research has supported a vulnerability model in which adolescent depression leads to difficulties in identity construction (Becht et al., 2019). However, replication of the present study using a longitudinal design to explore the full model would allow for a more thorough understanding of the direction of effects. For example, deriving trajectories of growth and the examination of how change in one construct effects change in another, would permit a more developmental conclusion to be drawn. Indeed, it is possible that identity-related difficulties in adolescents may elicit worries among parents, ultimately resulting in increased levels of parental mental load. Similarly, while the principle of equifinality (Cicchetti & Rogosch, 1996) proposes that psychopathology results from multiple pathways, the present study investigates just one. Thus, it is possible that other pathways (i.e., heritability, dysfunctional neuroregulatory mechanisms, etc.) contribute to the development of psychopathology (see Goodman & Gotlib, 1999). A comprehensive study taking into account a number of these potential pathways would be of great interest and provide a more thorough picture of the intergenerational similairity of psychopathology.

Third, another crucially important limitation of the present study is its focus on mothers and not mothers and fathers. This focus on mothers must be interpreted with caution as to not lead to mother blaming (Caplan & Hall-McCorquodale, 1985). Mother blaming has been considered a pervasive problem in research concerning child development and is defined as a sexist bias toward considering mothers' and not fathers' contribution to the development of child maladjustment (Phares, 1992). Historically, mothers have received the large focus of attention and responsibility in regard to the development of psychopathology (e.g., attachment theory, Freudian theory) and the responsibility of parenting (Phares, 1992). This societal expectation of mothers to bear the brunt of parenting puts them at greater risk for the development of psychopathology (Jackson & Mannix, 2004). Indeed, paternal levels of stress and depression have similarly be shown to impact parenting capacity as well as child outcomes, including youth internalizing and externalizing disorders (Brennan et al., 2002). Thus, while both mothers and fathers were recruited for the present study, only a handful of fathers participated and were therefore not included in the analyses. It is imperative that future studies make a conceited effort to focus on the role of fathers as well as mothers. Readers should interpret the present findings as only one piece of a two person parental unit and not as a means of putting further pressure and blame on mothers.

Fourth, data were collected via self-report questionnaires with mothers reporting on their personal mental load and adolescents on perceived parenting, their identity processes, as well as their depressive symptoms, potentially contributing to artificial inflation of the observed relations (Podsakoff et al., 2012). However, internal and subjective processes such as depressive symptoms and identity formation have been found to best be judged via self-report (Vierhaus & Lohaus, 2008). Moreover,

adolescents' perceptions of parenting are arguably more reflective of their lived experiences and potentially more predictive of adjustment outcomes (e.g., Van Lissa et al., 2019). Future studies could use a combination of self-report and interview methods to examine the replicability of our findings. Finally, the present study assessed for current depressivity, without taking into account lifetime prevalence. While increased exposure to parental maladjustment may increase the potentially serious consequences on children, lifetime severity of psychiatric diagnoses have been shown to contribute less to child outcomes than do current maternal symptoms of depression (Hammen et al., 1987).

Despite these limitations, the present study provides a novel contribution to the literature in that it is the first to investigate a model of intergenerational similarity of depressive symptoms via parenting and the principle developmental task of adolescence, identity formation. More specifically, when mother's suffer from increased levels of stress and depressive symptoms their parenting suffers as a result, resulting in increased use of psychological control and decreased use of autonomy support. This then has a negative impact on the identity processes utilized by adolescents with them employing more maladaptive identity strategies, ultimately resulting in depressive symptoms. Given the elevated levels of depressivity and stress in the general population, specifically during the reproductive age (Kessler et al., 1994), it seems of utmost importance that interventions focus on aiding parents, even those suffering from subclinical levels of depression to employ positive parenting strategies.

Chapter 6

General Discussion

Adolescent identity formation has long been of interest to scholars. While historic conceptualizations of identity (Erikson, 1950; Marcia, 1966) have sometimes been critiqued for their lack of clarity (Côté & Levine, 1987; Kroger, 2004b) and lack of fully developmental nature (Côté & Levine, 1988; Meeus et al., 1999), more modern operationalizations of identity have taken a process based approach to defining the underlying dimension of this developmental process (Crocetti, Rubini, & Meeus, 2008; Luyckx, Goossens, Soenens, et al., 2006). These process based approaches have provided a much greater understanding as to the complexity and dynamic interplay of the multiple underlying dimensions of identity including aspects of both identity formation and evaluation. While this is the case, the majority of these studies have relied largely on university aged populations in the Belgium, the Netherlands, or American context (e.g., Crocetti et al., 2012; Luyckx, Goossens, Soenens, et al., 2006; Schwartz, Beyers, et al., 2011). Furthermore, a need remains for a more thorough understanding as to how parenting may help create identity nourishing environments for adolescents.

Thus, in the present dissertation we sought to address such limitations and to deepen our understanding of the relationship between adolescent identity formation and parenting within the self-determination theory framework. Furthermore, we sought to examine two antecedents factors that may play an important part in one's ability to provide nurturing parenting. More specifically, this dissertation was guided by four research aims: (1) to empirically derive identity typologies based on a process oriented

model and to investigate associations with perceived parenting, (2) to examine the relationship between specific identity processes and parenting dimensions, (3) to assess the antecedent role of coparenting on parenting and consequences for identity formation, and (4) to examine how parental mental load may impact parenting and ultimately adolescent identity formation and adjustment .

In this final chapter we will review the major findings from each of the dissertation chapters as they relate to the these four research aims. We will then discuss broader implications of the research findings in regard to practical implications. We will conclude this final chapter by discussing the limits of the current dissertation as well as a number of future directions.

Aim 1: Identity Typologies and Parenting : A Person-Centered Approach

The first aim of the present dissertation sought to examine general associations between adolescent identity formation based on the empirical derivation of identity typologies and parenting in a self-determination theory framework. Marcia's classic identity model put fourth four identity statuses based on two aspects of identity work: exploration and commitment (Marcia, 1966). The four statuses identified by Marcia include: achievement, foreclosure, moratorium, and diffusion (Marcia, 1966). More recently, two process based identity models, the dual-cycle model (Luyckx, Goossens, Soenens, et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008) and the three-factor model of identity (Crocetti, Rubini, & Meeus, 2008) have defined identity in terms of a further derivation of commitment and exploration. Taking a more finessed approach to identity formation, in Chapter 2 and Chapter 3 we used an integrated model of identity based on six identity processes (i.e., exploration in breadth, exploration in depth,

commitment making, identification with commitment, ruminative exploration, and reconsideration of commitment) to derive identity typologies experienced by middle adolescents.

In Chapter 2 we derived identity typologies using data from one time point. In line with expectations, we identified an achievement and a foreclosure status similar to those identified in Marcia's (1966) original status model. Moreover, the use of a six-process model allowed for the identification of two types of moratorium, ruminative moratorium and searching moratorium, as well as two types of diffusion, carefree diffusion and troubled diffusion (Crocetti, Rubini, Luyckx, et al., 2008; Luyckx, Schwartz, Berzonsky, et al., 2008). The empirical derivation of six identity statuses is in line with what has largely been found in previous studies (Mannerström et al., 2017; Schwartz, Beyers, et al., 2011; Skhirtladze et al., 2016). Furthermore, the distinctiveness of each status makes it abundantly clear that not all adolescents engage in the same aspects of identity formation. In fact, it appears as though certain adolescents may largely forgo certain processes in favor of other identity processes. For example, this appears to be the case for foreclosed adolescents (Luyckx, 2006). Foreclosed adolescents have unquestioningly adopted values and beliefs bestowed unto them from significant others, such as parents (Marcia & Josselson, 2013). Consequently, they do not engage in much exploratory behavior (i.e., exploration in breadth, exploration in-depth, or ruminative exploration). Given that foreclosed adolescents rigidly adopt authoritarian values without putting them into question, they also do not engage in any type of reevaluation (Kroger, 2004b; Luyckx, 2006). On the other hand, achieved adolescents were characterized by the highest levels of commitment and moderate levels of adaptive exploration. As with foreclosed adolescents, achieved adolescents did not engage in much ruminative

exploration nor reconsideration of commitment, reflecting their strength and confidence in their commitments (Waterman, 2015). Thus, whereas Waterman (2015) suggested that foreclosed and achieved adolescents may resemble one another quite closely in their expression of identity dimensions as evaluated by the DIDS, the two statuses were clearly distinct in our population.

As previously discussed, the existence of two types of moratorium have been suggested as an explanation for the contradicting findings in regard to this identity status, reflecting both bright and dark sides of moratorium (Crocetti & Meeus, 2015). Indeed, in our sample, we identified both a bright (i.e., searching moratorium) and dark (i.e., ruminative moratorium) type. However, whereas the initial empirical identification of these two statuses was achieved using the three-factor model (Crocetti et al., 2012; Crocetti, Rubini, Luyckx, et al., 2008), the distinction between these two types became more apparent through the use of the six-dimensional model. The once largely distinguishing feature between these two statuses was believed to be the high presence of commitment for searching moratorium and the lack of commitments for moratorium, in other words searching moratoriums are working on revising commitments, whereas moratoriums are working on forming commitments, with both statuses being high on reconsideration of commitment (Crocetti & Meeus, 2015). The inclusion of the sixth dimension of ruminative moratorium provides further insight. It appears that adolescents in moratorium are more engaged in ruminative exploration as opposed to reconsideration of commitment. Thus, they get stuck in a repetitive process of mulling over potential options, struggling to form commitments. On the other hand, adolescents in searching moratorium engage in much higher levels of reconsideration of their already formed commitments. Thus, both subtypes of moratorium engage in types of exploration, in line

with Erikson's original conceptualization of this developmental period (Erikson, 1968), with in one case commitments being made and reconsidered and in the other case adolescents continuously exploring and struggling to form commitments.

While the data used in Chapter 2 came from a single time point, the searching moratorium status appears to reflect the iterative process of identity formation. Indeed, identity formation does not occur in one linear movement, but rather is characterized by ongoing exploration and re-evaluation (Arnett, 2015). Thus, we see that captured within this one status are adolescents who have explored identity possibilities, committed to these possibilities, and are now reconsidering such commitments. It is for this reason that we suggest the label of *reconsidering achievers* be more appropriate (see Chapter 2), reflecting that at one point in time, these adolescents had explored and formed commitments. While there has been much debate concerning the developmental nature of Marcia's status model (see Côté & Levine, 1988; Meeus et al., 1999), the reconsidering achievement status can be seen as capturing the moratorium-achievement-moratorium-achievement (M-A-M-A) cycles described by Stephen and colleagues (Stephen et al., 1992) and more specifically the shift from achievement to moratorium (i.e., being firm in one's commitments to putting them into question). This M-A-M-A cycling is not to be seen as a developmental regression, but rather as similar to developmental progression allowing for growth and integration of new identity content (van Hoof, 1999; Waterman, 1993). Similarly, drawing upon SDT, the ability to reconsider past commitments could reflect an adolescent's attunement to their sense of self. In order to reconsider commitments for potentially new alternatives, one must have the capacity to reflect on one's true likes and dislikes.

Lastly, the six-process model also allowed for the empirical identification of two subtypes of diffusion: Marcia's troubled diffusion as well as a carefree diffusion. While both diffusion statuses expressed low levels of commitment, adaptive exploration, and reconsideration, they differed greatly on their levels of ruminative exploration- with troubled diffusion relying to a moderate extent and carefree diffusion to a much lesser extent on the use of this dimension. These findings are in line with what has been found in other studies utilizing the dual-cycle model (Luyckx et al., 2009; Luyckx, Schwartz, Berzonsky, et al., 2008) as well as theoretical propositions as to the existence of multiple types of diffusion statuses (Archer & Waterman, 1990). More specifically, troubled diffusion appears to resemble to some extent Archer and Waterman's (1990) *alienated identity diffusion*, which were described as a group of adolescents who experience anxiety as a result of their inability to cope with the demands of identity formation. Carefree diffusion on the other hand may be more similar to *apathetic identity diffusion* characteristic of adolescents who neither have commitments nor are interested in forming commitments (Archer & Waterman, 1990). Thus overall, the use of the six-dimensional model allowed for a more refined view and empirical validation of previously theorized distinctions in identity statuses.

While the cross-sectional findings from Chapter 2 provide a snapshot of how adolescents can be characterized based on their identity work at a single point in time, in Chapter 3 we delved deeper, taking a more developmental look at how adolescents evolve in their use of the different identity processes over a 1.5 year period. Furthermore, we were interested in whether developmental trajectories would be identified reflecting certain of the identity statuses (e.g., whether a trajectory similar to achievement would be identified in which adolescent would demonstrate high stable levels of commitment,

moderate stable levels of adaptive exploration, and low stable levels of ruminative exploration and reconsideration of commitment).

Several authors have investigated longitudinal typologies of identity development (Côté & Levine, 2002; Helson & Srivastava, 2001; Josselson, 1996; Luyckx, Schwartz, Goossens, et al., 2008). In general, four developmental typologies have been identified, indeed reflecting Marcia's original identity statuses. These studies, however, focused on largely female populations in emerging to mid-adulthood. Furthermore, only one study used an explicitly quantitative approach, latent class growth analysis, to empirically identify identity trajectories (Luyckx, Schwartz, Goossens, et al., 2008). Luyckx and colleagues (2008) used the four original dimensions of the DIDS (i.e., exploration in breadth, exploration in depth, commitment making, and identification with commitment) and identified four identity trajectories: pathmakers, searchers, guardians, and consolidators. Indeed, pathmakers reflected Marcia's achievement status, demonstrating high scores on all four dimensions. Searchers were similar to Marcia's moratorium status, scoring low on commitment and high on exploration dimensions. Guardians reflected Marcia's foreclosure status, with stable moderate scores on all identity dimensions. Lastly, consolidators appeared to represent a subtype of Marcia's foreclosure status, with high stable levels of exploration in depth and identification with commitment, low stable levels of exploration in breadth, and increasing levels of commitment making.

With the addition of the two maladaptive identity processes and a focus on middle adolescents transitioning out of obligatory secondary school, we aimed to provide further insight into the longitudinal development of identity. Through the use of group-based trajectory modeling we identified four identity trajectories (i.e., pathmakers, guardians, successful searchers, lost searchers) that to a large extent reflect Marcia's identity statuses

(1966) as well as a number of developmental trends previously identified by Luyckx and colleagues (2008) with their emerging adult population.

Pathmakers demonstrated high levels of commitment dimensions and exploration in depth, moderate levels of exploration in breadth, and low levels of ruminative exploration and reconsideration of commitment. Furthermore, levels of ruminative exploration and reconsideration of commitment decreased over time and levels of commitment making and identification commitment increased. Thus, these adolescents strongly resemble the developmental translation of Marcia's (1966) achievement status as well as Luyckx and colleagues' (2008) pathmaker trajectory. Over time their commitments are becoming more integrated following extended periods of exploration. Similarly, maladaptive identity dimensions, which to begin with were at lower levels, are decreasing with time. Thus, it would appear that these adolescents are gaining more confidence in their commitments and are putting them less into question. Given that these adolescents have engaged in healthy exploratory behaviors, it is possible that they are better in touch with their sense of self, ultimately allowing them to form commitments that truly reflect their internal goals and values (Soenens & Vansteenkiste, 2011).

Guardians, similar to the guardian trajectory identified by Luyckx and colleagues (2008), appeared to reflect Marcia's foreclosure status. These adolescents demonstrated moderate levels of commitment dimensions and low levels of exploration in breadth and exploration in depth. Furthermore, these adolescents demonstrated low levels of ruminative exploration and reconsideration of commitment. All identity dimensions remained stable over time except for commitment making and identification with commitment, which were characterized by a negative quadratic trend. In line with the foreclosure identity status, not only are these adolescents closed off to the exploration of

identity commitments they also do not put into question any of their commitments (Marcia & Josselson, 2013). Rather, guardians rigidly abide by values handed down to them from authority figures.

In line with the two forms of moratorium identified in our cross-sectional investigation in Chapter 2, in Chapter 3 we identified two trajectories reflecting both bright and dark evolutions of the moratorium status (Crocetti & Meeus, 2015): lost searchers and successful searchers. As with the ruminative moratorium status, lost searchers demonstrated high levels of ruminative exploration and moderately high levels of reconsideration of commitment. Furthermore, these adolescents demonstrated low levels of commitment dimensions as well as exploration in breadth and exploration in depth. All identity dimensions remained stable. Thus, while these adolescents were engaged in the exploration process, they relied heavily on maladaptive exploratory behaviors and were unable to form commitments over time. On the other hand, successful searchers appeared to reflect the bright side of moratorium, with adolescents demonstrating moderate levels of commitment dimensions and exploration in depth and exploration in breadth. However, as suggested in Chapter 2, while these adolescents had already formed commitments, they seemed to be in the process of reevaluation, engaging in high levels of reconsideration and ruminative exploration. Over time these adolescents found their footing and levels of reconsideration of commitment and ruminative exploration decreased, reflecting more so a type of reconsidering achiever (see Chapter 2), adolescents who have formed commitments after exploration and are currently in the process of reconsidering present commitments. Thus, this trajectory captures the dynamic nature of identity formation in which adolescents, especially when confronted with transitory moments in their life (i.e., the transition out of obligatory secondary school)

may put into question commitments for potential alternatives (Luyckx, Goossens, & Soenens, 2006).

Overall, the results from Chapter 2 and Chapter 3 suggest that adolescents clearly take on the task of identity formation in various ways. While the majority of adolescents seem able to make commitments, certain adolescents make these commitments following periods of exploration (i.e., the achievement status and the pathmaker trajectory; the reconsidering achievement status and the successful searcher trajectory) while others do so without exploring (i.e., the foreclosure status and the guardian trajectory). Other adolescents appear unable to explore in an adaptive way and remain blocked from forming commitments (i.e., the troubled diffusion status, the ruminative moratorium status, and the lost searchers trajectory). Still others avoid engaging in any identity work (i.e., the carefree diffusion status). But why do adolescents follow such varying paths? One possible contributor is the parenting context perceived by adolescents and more specifically the extent to which parents help satisfy their child's basic psychological need for autonomy (Joussemet et al., 2008; Luyckx, Soenens, Goossens, et al., 2007). Indeed, researches have proposed that the extent to which one's basic psychological needs are met may be crucial for the formation of an integrated versus troubled identity (Luyckx et al., 2009). Hence, we expected adolescents who perceived their parents to be supportive of their autonomy to have more mature identity development (i.e., healthy exploration and commitments), whereas those adolescents who perceived their parents as being psychologically controlling to have less mature identity development (i.e., unhealthy exploration and lack of commitments). We investigated this association both cross-sectionally (Chapter 2) and longitudinally (Chapter 3).

In line with our expectations, adolescents in the achievement status were more likely to perceive higher levels of autonomy supportive parenting and lower levels of psychological control. This was similarly reflected longitudinally in the pathmaker status in which adolescents reported higher levels of autonomy support remaining stable even across the educational transition, while levels of psychological control decreased. Parents who are supportive of their adolescent's autonomy attempt as much as possible to take their children's perspective and to be supportive of their child's interests (Grolnick et al., 1997). This may then provide adolescents with a sense of freedom to pursue self-endorsed interests, ultimately making it more likely for them to embark on the exploration of these interests and to make coherent commitments (Luyckx et al., 2009; Soenens & Vansteenkiste, 2005). Moreover, given that these adolescents are provided a certain psychological freedom they are better able to make commitments reflecting self-endorsed interests and values with less hesitation as to whether alternative commitments may be better (Luyckx et al., 2009). This is in line with Waterman's (1984) self-discovery perspective of identity formation and the role of parental figures, in that a parent should neither provide inappropriate discouragement or encouragement, but rather allow a child to discover commitments that are truly reflective of their desires (Waterman, 1984). These adolescents therefore have the potential to be self-realizing individuals through the supportive context provided by their parents.

Conversely, adolescents experiencing the highest levels of psychological control were the carefree diffusion and reconsidering achievement statuses. Whereas carefree diffused adolescents engaged in little identity work, reconsidering achievers appeared to rely heavily on reconsideration of commitment. Thus, it appears as though adolescents may react in various ways when confronted with psychologically controlling parenting,

with certain disengaging completely and others potentially making use of maladaptive techniques. It is difficult to decipher, however, whether these differences may be due to carefree diffused adolescents simultaneously perceiving low levels of autonomy support and high levels of psychological control whereas reconsidering achievement adolescents perceived relatively high levels of autonomy support along with psychological control.

From a developmental perspective, the lost searchers trajectory perceived the highest levels of psychological control and similarly displayed high stable levels of ruminative exploration and reconsideration of commitment. It would appear as though parents who are perceived as highly psychologically controlling impair their child's ability to form a coherent sense of self (Luyckx, Soenens, Vansteenkiste, et al., 2007). Furthermore psychological control was associated both cross-sectionally and longitudinally with maladaptive identity exploration. When adolescents feel internally pressured, they are more likely to be plagued by worries and self-doubt, ultimately making it more difficult for them to make coherent identity decisions (Luyckx, Schwartz, Berzonsky, et al., 2008; Segerstrom et al., 2000). For certain parents, the use of psychological control may be a way to attempt to guide their child back on track, as may be the case for parents of lost searchers. However, the pressure and anxiety induced in adolescents from the parental use of psychological control does just the opposite (Luyckx et al., 2009).

The optimal environment for identity formation appears to be when parents are able to provide high levels of autonomy support and low levels of psychological control. Similarly, the least favorable case for identity development would be when parents provide high levels of psychological control and low levels of autonomy support. Autonomy support and psychological control, however, are not on two ends of one

spectrum (Soenens et al., 2019). Quite importantly the absence of autonomy supportive parenting does not imply the presence of psychologically controlling parenting and vice versa (Soenens et al., 2019). Parents may, therefore, engage in both types of parenting. In this light, certain parents do appear to provide both moderate levels of autonomy support and psychological control (i.e., decreasing supportive trajectory). This type of parenting was particularly likely for adolescents following the guardian trajectory, forming commitments with limited exploration. It is possible that for these adolescents parents provide sufficient autonomy support to enable the formation of identity commitments, but at the same time the use of psychologically controlling tactics may ensure that commitments stay in line with parental values. One possible explanation may be that these adolescents have introjected parental values (Marcia, 1993; Ryan & Deci, 2000a). Thus, while the actions of these adolescents may be driven by an internal force, they may be guided by an external locus of control (i.e., their parents), and therefore actions may not be fully integral to the self (Luyckx et al., 2009; Ryan et al., 2006). That is, they may feel compelled to make commitments in line with parental requests in order to avoid feelings of guilt or to gain a sense of esteem in their parents' eyes (Assor et al., 2004; Ryan & Deci, 2000a).

Overall, the use of a person-centered approach contributed to the understanding of how adolescents experience identity formation. More specifically, such an approach underscores the fact that not all adolescents will experience identity development in the same manner, with some adolescents expressing higher levels of certain dimensions and lower levels of other dimensions. Furthermore, both cross-sectional and longitudinal findings suggest that a parents provision of autonomy support and psychological control may ultimately effect an adolescents identity development. Parents who maintain higher

levels of autonomy support provide an optimal context for identity exploration and commitment, whereas higher levels of psychological control seem to endanger healthy identity formation. However, given that a person-centered approach does not allow for the deciphering of specific associations between autonomy supportive and psychologically controlling parenting with the six identity dimensions, we will now move on to our second aim in order to get at the root of whether certain parenting is influencing the reliance on specific identity dimensions.

Aim 2: Identity Processes and Parenting : A Variable-Centered Approach

A second goal of the present dissertation was to use a variable-centered approach to investigate the specific relationships between autonomy supportive parenting and psychologically controlling parenting with the six identity processes. While in Chapters 2 and 3 we used a person-centered approach evidencing higher levels of autonomy support/lower levels of psychological control to be associated with more mature identity statuses/trajectories and higher levels of psychological control/lower levels of autonomy support to be associated with less mature identity development, in Chapters 4 and 5 we were interested in whether specific parenting dimensions promote or inhibit specific identity dimensions. That is to say, would autonomy support promote adaptive identity dimensions or would autonomy support inhibit maladaptive identity dimensions and vice versa for psychological control. Such an approach is not only of theoretical importance but also of clinical importance in the development of interventions focused on identity formation and parenting.

In both Chapters 4 and 5 structural equation modeling revealed autonomy supportive parenting to be associated with higher levels of exploration in breadth,

exploration in depth, commitment making, and identification with commitment. In line with SDT, when parents are supportive of their child's volitional functioning it will enable an adolescent to feel confident to explore different identity alternatives. Such exploratory behaviors would then allow adolescents to be more in touch with their inner sense of self and to make identity coherent commitments (Soenens et al., 2009). Therefore, adolescence who are high on exploration dimensions, should inherently be making more self-determined decisions (Luyckx et al., 2009). Indeed, it has been found that parents who are accepting of their children and positively interact with them facilitate their children's identity development (Arnett, 2001).

At the same time, Chapter 4 also evidenced autonomy support to be related to lower levels of ruminative exploration. Thus, not only does parental autonomy support promote healthy identity formation, but it also acts as a protective factor against the use of maladaptive identity exploration. Such findings suggest that as parents create an environment fostering an adolescent's self-guided exploration, adolescents have little need to ruminate as they have confidence in what does and does not interest them and can act in accordance with these preferences. Furthermore, these adolescents feel supported by their parents and are not caught up in feelings of uncertainty as to whether or not they are pleasing their parents (Soenens & Vansteenkiste, 2010). Reconsideration of commitment appeared to be unrelated to autonomy support.

In regard to psychological control, results were quite the opposite. Firstly, both in Chapter 4 and 5 psychological control was unrelated to exploration in breadth, exploration in depth, commitment making, and identification with commitment. Whereas previous findings have suggested higher levels of exploration in breadth to result from parental use of psychological control (Luyckx, 2006; Soenens, Vansteenkiste, et al.,

2005), we did not find such an association. Rather, parental use of psychological control appeared to promote maladaptive exploration in the form of ruminative exploration. Indeed, parental psychological control is an internally controlling tactic that intrudes on an adolescents inner psychological space, making it more difficult for them to be in tune with their inner self and therefore make coherent identity decisions (Luyckx, Soenens, Vansteenkiste, et al., 2007; Soenens & Vansteenkiste, 2010). The continued mental effort put forth to try and resolve uncertainty related to identity questions contributes to distress and feelings of incompetence, which may then perpetuate the vicious cycle of ruminating over identity related decisions (Segerstrom et al., 2000; Watkins, 2004). In fact, rumination often results when there is a greater discrepancy between current state and ideal outcome (Martin & Tesser, 1996). For adolescents whose parents rely on intrusive parenting, there may be a large discrepancy between adolescents' desired goals and parent imposed goals (Luyckx, Soenens, Vansteenkiste, et al., 2007; Martin & Tesser, 1996). This mismatch between personally endorsed and external imposed goals may lead adolescents to ruminate over the best direction to take for their lives (Watkins, 2004).

In addition, ruminative exploration appeared to be specifically associated with dependency-oriented psychological control and not achievement-oriented psychological control (see Chapter 4). Dependency-oriented psychological control involves parental attempts to promote interpersonally closeness and dependency (Soenens et al., 2010). On the other hand, achievement-oriented psychological control is aimed at maintaining parental standards for academic achievement (Soenens et al., 2010). In line with social domain theory, adolescents may react differently to parental use of psychological control depending on the type of issue being considered (Smetana & Daddis, 2002). While moral issues (pertaining to the welfare of others or fairness), conventional issues (norms that

regulate appropriate behaviors in different contexts), and prudential issues (personal health, comfort, and safety) are often seen as legitimate realms of parental authority, parents and adolescents often disagree as to where to draw the boundary of legitimate parental authority over adolescent personal issues (regarding one's body, preferences social groups, and privacy; Smetana & Daddis, 2002; Smetana & Rote, 2019). Indeed, when it comes to personal issues adolescents often feel that it is within their authority to decide (Smetana & Daddis, 2002). Thus, it is possible that dependency-oriented psychological control may be experienced as encroaching on adolescent's personal domain, with parental attempts to keep their children both physically and emotionally close to them. As a result of this mismatch between parental allegiance and adolescent desires, these adolescents may find themselves stuck in a ruminative cycle of what decisions to make (Martin & Tesser, 1996). Achievement-oriented psychological control may be experienced as more acceptable given that it is targeted at school performance and viewed within parental legitimate authority.

Lastly, reconsideration of commitment was also related to perceived parental psychological control (Chapter 4). Reconsideration of commitment may result when current commitments are no longer seen as satisfactory and are instead reconsidered for alternatives (Crocetti, Rubini, & Meeus, 2008). In essence, it is believed to represent an adolescent's uncertainty (Crocetti, Rubini, & Meeus, 2008). Thus, much like ruminative exploration, we believed parental psychological control would interfere with an adolescents ability to be in touch with their sense of self, therefore making it more difficult for them to judge the appropriateness of different identity commitments, ultimately leading them to commit and reconsider. Indeed, recent investigations have found reconsideration of commitment to be associated with parental use of psychological

control as well as more maladaptive outcomes in adolescents (Beyers & Luyckx, 2016). To our surprise, in the present dissertation the association between reconsideration of commitment and perceived parental psychological control was only found in one study. Thus, future research should be carried out in order to better understand the relationship between these two constructs.

Overall, the findings from Chapter 4 and 5 suggest that perceived autonomy support is of utmost importance for healthy identity formation. While autonomy supportive parenting promotes healthy identity formation in the form of exploration in breadth, commitment making, exploration in depth, and identification with commitment, psychologically controlling parenting does indeed appear to be an inhibiting factor encouraging ruminative exploration and reconsideration of commitment. Furthermore, the presence of autonomy support appears to be even more important than simply a lack of psychological control (for example parenting that is low in autonomy support and low in psychological control). When psychological control is present, it is likely to promote reliance on ruminative exploration and potentially reconsideration of commitment, however, for adolescents for whom both autonomy support and psychological control are present, the mere presence of autonomy support does appear to promote a certain level of engagement in healthy identity formation. However, the simultaneous presence of psychological control may introduce a certain level of doubt inducing adolescents to engage in ruminative exploration (for example search moratoriums).

Aim 3: The Greater Family Context: Coparenting

The third aim of the present dissertation was to take a more encompassing look at the family in regard to adolescent identity formation. More specifically, we investigated

whether coparenting may indirectly be associated with identity formation through perceived parental autonomy support and psychological control. In line with Grolnick's (2003) proposition of the three types of pressures that impact a parents parenting capacity (i.e., pressure from above, pressure from within, and pressure from below), we expected coparenting to act as a pressure from above. Indeed, the spillover hypothesis suggests that there may be a direct transfer of affect from one context to another (Erel & Burman, 1995). Thus, this pressure from above may spillover onto the parenting domain.

In support of the spillover hypothesis, Chapter 4 evidenced perceived coparenting to be associated with perceived parenting. More specifically, triangulation was associated with elevated levels of dependency-oriented and achievement-oriented psychological control. One possible explanation is that parental use of psychological control may be a mechanism by which parents triangulate their child. Coparental triangulation refers to the process of avoiding or diverting parental conflicts by involving the child (Grych, 2002). One of the forms this may take is by the formation of cross-generational coalitions, in which one parent attempts to form a coalition with their child against the other parent (Kerig, 1995; S. Minuchin, 1974). Another cross-generational coalition can take the form of a *rigid triangle* in which both parents attempt to enlist the support of their child (Kerig, 1995; S. Minuchin, 1974). In order to establish such a coalition, a parent may use psychologically controlling parenting to induce feelings of closeness and loyalty in their child (Soenens & Vansteenkiste, 2010). Indeed, psychological controlling parenting has been found to induce feelings of undue loyalty towards parents (Soenens & Vansteenkiste, 2010), thus contributing to the formation of such a parent-child coalition. In a similar vein, parents who use triangulation are less autonomy supportive. These parents may be more so focused on the fulfillment of their own needs and not the needs

of their child (Soenens & Vansteenkiste, 2010). Thus, they are focused on the formation of a coalition with their child, rather than the encouragement of their child's volitional functioning. Indeed, past research suggests that parents are more likely to engage in psychological control when their own basic needs are not fulfilled (Grolnick, 2003).

While the spillover hypothesis has most commonly been used to describe the spillover of negative affect, it can also refer to the spillover of positive affect (Bonds & Gondoli, 2007). Once again, results from Chapter 4 support this positive spillover, wherein coparental cooperation promoted autonomy supportive parenting. Thus, this positive coparenting dynamic by which parents work together to support each other in their role of parent feeds into their support of their child. Given that cooperation requires one to work together and to consider the points of view of others (Pinquart & Teubert, 2015) it is possible that this may be associated with the empathic view necessary for supporting a child's autonomous functioning (Deci et al., 1994). Alternatively, parents who feel supported in their role of parent (i.e., high levels of coparental cooperation) may feel more fulfilled in terms of their own needs, and may therefore be better able to support their child's needs, and particularly their child's need for autonomy (Grolnick, 2003)

Overall, chapter 4 provides support for two potential developmental pathways: an adaptive pathway and a maladaptive pathway. The adaptive pathway leads from coparental cooperation through autonomy supportive parenting to healthy identity behaviors (i.e., increased levels of commitment making, identification with commitment, exploration in breadth, and exploration in depth, and decreased levels of ruminative exploration). On the other hand, the maladaptive pathway leads from coparental triangulation to psychologically controlling parenting to maladaptive identity behaviors (i.e., increased levels of ruminative exploration and reconsideration of commitment).

These results lend support for the spillover of pressure from above onto parenting dynamics (Grolnick, 2003). Thus, clearly coparenting plays an important anteceded role in the provision of autonomy supportive versus psychologically controlling parenting and ultimately adolescent identity formation. These dynamics are worthy and necessary of greater consideration given the important implications this may have not only for adolescent identity formation but more generally for adolescent development.

Aim 4: Parental Mental Load: An antecedent to Parenting and Identity Formation?

Recently there has been a resurgence of interest into identity pathology as a root cause of many psychopathologies (Klimstra & Denissen, 2017). Given that the large amount of identity work is done while adolescent are still in close relations with their parents, we sought to examine to what extent maternal parental load would indirectly be associated with adolescent identity formation and ultimately adolescent depressive symptoms. Indeed, psychologically controlling parenting has been associated with a number of difficulties in adolescents and particularly internalizing problems such as depressive symptoms (Rogers et al., 2020; Soenens et al., 2012). Little research, however, has investigated antecedents to the parental use of psychological control (Soenens & Vansteenkiste, 2010). Similarly, as suggested by the findings of the present dissertation, parental use of psychological control versus autonomy support is detrimental to adolescent identity formation. Thus, in chapter 5, from a developmental psychopathology perspective, we investigated whether one potential path leading from parental mental load to adolescent depressive symptoms would be via impairments to parenting and adolescent identity formation.

As previously discussed, one pressure on parents can come from within (i.e., parent's own psychological status and personality; Grolnick, 2003). According to Barber and colleagues (2002), pressure from within is believed to be the most powerful source of controlling parenting over pressure from above and pressure from below. In line with our hypotheses mothers were more likely to employ psychologically controlling tactics when experiencing greater parental mental load. Indeed, elevated levels of stress and depression often go along with feelings of loss of control and overwhelm (Pettit et al., 2001). One strategy to regain a sense of control over their family life may be to employ psychologically controlling tactics (Pettit et al., 2001). Similarly, parents were less likely to engage in autonomy supportive parenting when experiencing greater parental mental load. These increased levels of stress and depression may simply make it more difficult for parents to take an empathic point of view, a fundamental necessity for the provision of autonomy support (Deci et al., 1994; Schreiter et al., 2013).

In turn, autonomy supportive parenting was associated with increased levels of adaptive identity formation (exploration in breadth, commitment making, exploration in depth, and identification with commitment), whereas psychologically controlling parenting was associated with increased levels of ruminative exploration (see discussion aim 2). Lastly, ruminative exploration was associated with increased levels of depressive symptoms in adolescents, whereas exploration in depth appeared to act as a protective factor from depressive symptoms. Indeed, psychologically controlling parenting appears to incite feelings of indecisiveness and self-doubt (Soenens, Vansteenkiste, et al., 2005), which when prolonged may lead to general feelings of hopelessness. These results are in line with previous studies in which adolescents in identity statuses characterized by higher levels of rumination (i.e., moratorium) also attested to higher levels of depressive

symptoms as compared to adolescents in statuses defined by higher levels of commitment (Luyckx, Duriez, et al., 2010; Meeus et al., 2012). Similarly, in a recent longitudinal investigation Becht and colleagues (2019) found increases in ruminative exploration to predict increases in depressive symptoms 1 year later. Thus, while there has been debate as to whether identity issues render adolescents more vulnerable to developing depressive symptoms (i.e., the vulnerability model; Klimstra & Denissen, 2017), or rather whether adolescents' depressive symptoms impact an adolescents' capacity to engage in adaptive identity work (i.e., the scar model; Klimstra & Denissen, 2017), the findings of the present dissertation as well as past studies lend support to a vulnerability model. That is, difficulties in the construction of a coherent identity puts adolescents at greater risk for depressive symptoms. Thus, whereas abundant research has found adolescents of depressed parents to be at greater risk for depression themselves (Boyd & Weissman, 1981; Connell & Goodman, 2002; Duggal et al., 2001; Hammen, 1997; Rutter & Quinton, 1984), the findings of Chapter 5 are the first to demonstrate an all-encompassing view from a developmental perspective, in which the normative process of adolescent identity formation may serve as one mechanism for the intergenerational similarity of depressive symptoms. This finding is of significant importance to clinicians and future clinical interventions, which will now be discussed.

Practical Implications

Problematic identity formation has grave consequences on adolescents, including feelings of loss, emptiness, and lack of direction in life (Erikson, 1950, 1968). Similarly, numerous studies, including the present dissertation have suggested that maladaptive identity formation may be at the root of different psychopathologies (e.g. Gandhi et al.,

2019; Schmeck et al., 2013; Verschueren et al., 2017). Given the importance of a well-constructed sense of self, it is imperative to develop intervention strategies to assist adolescents either directly or indirectly on this developmental course. The present dissertation has put into light a number of contextual factors that both promote and endanger this developmental task. These contextual factors can be used as guiding points for interventions on numerous levels. We will now proceed to describe the different entry points of potential clinical interventions.

A first point of entry work directly with adolescents on their identity development (Figure 6.1, entry point 1). Identity counseling is an approach aimed at facilitating movement from a less mature sense of identity to a more coherent and synthesized identity in order to reduce uncertainty and confusion (Luyckx et al., 2009). Indeed, previous research has demonstrated the malleability of identity processes as well as the efficacity of certain identity interventions (Ferrer-Wreder et al., 2002; Schwartz, Kurtines, et al., 2005). For example, Schwartz and colleagues (2005) used a participatory learning approach integrating cognitively and emotionally focused strategies to promote identity exploration through problem-solving and decision-making processes. In this respect, Schwartz and colleagues (Schwartz, Kurtines, et al., 2005) found the generation of identity alternatives to be affected by cognitively focused strategies, whereas emotional focused strategies specifically affected personal expressiveness. Thus, using a combination of both cognitively and emotionally focused strategies may be beneficial for adolescents struggling with identity formation.

In line with the results of the present dissertation, while certain adolescents flow seamlessly through the developmental process of identity formation (i.e., achievement status/pathmaker trajectory), others may be completely uninterested or stuck in their

development (e.g., identity diffusion statuses, ruminative moratorium identity status). For these adolescents, it may be useful for clinicians to approach identity formation from the perspective of motivational interviewing and basic need fulfillment (Markland et al., 2005; Miller, 1983). In this respect, motivational interviewing and SDT are both based on the assumption that humans have a natural growth tendency (Markland et al., 2005). Motivational interviewing is a client-centered method for enhancing intrinsic motivation to change via exploration and resolution of ambivalence (Miller & Rollnick, 2002). The clinician's role is to provide support to the client in exploring their ambivalence, to help the client locate and clarify their motivation for change, and to offer alternative perspectives on problem behaviors (Miller, 1983). Thus, motivational interviewing attempts to address a client's three basic psychological needs for competence, autonomy, and relatedness and to help clients to align their behaviors, attitudes, and beliefs, with their core values (Markland et al., 2005). In this light, motivational interviewing has been put forth as a promising style for working with adolescence, particularly given the age-related concerns of self-definition (J. S. Baer & Peterson, 2002). Given motivational interviewing's respectful approach to acknowledging choices and the use of ambivalence to develop motivation for change, it is believed to be a beneficial approach for this age group, however, currently it has not been widely applied to areas other than substance use (J. S. Baer & Peterson, 2002).

Not only may adolescents be aided in their identity development via specific interventions, but similarly educational environments may also act as sources of support for identity work (Grolnick et al., 1991; Luyckx, 2006). More specifically, school environments that emphasis knowledge, critical thinking, and responsible choice, can allow adolescents to explore identity alternatives without judgment (Luyckx, 2006). In

this light, the degree of teachers' provision of autonomy-support has been found to be positively associated with identification with commitment and exploration in depth (Soenens & Vansteenkiste, 2005). Thus, teachers may act as additional sources of support, especially to adolescents whose parents are unable to provide such need satisfaction.

A second point of intervention is to act directly on parental provision of autonomy support (Figure 6.1, entry point 2). We start with this point of entry, as it may be a way to help protect against maladaptive identity strategies before they begin. The findings of the present dissertation clearly indicate that autonomy-supportive parenting versus psychologically controlling parenting play an important role in adolescent identity formation. Autonomy supportive parenting includes (1) showing empathy, acknowledging the feelings, and taking the perspective the adolescent, (2) providing relevant and meaningful opportunities for choice when possible, (3) providing a rationale and meaningful explanation when choice limited (Deci et al., 1994; Grolnick, 2003). Thus, interventions targeted at helping parents work on their provision of autonomy support could be of great importance. A number of intervention programs have been developed in this regard. For example, the How-to Parenting Program, based on the writings of Faber and Mazlish (1980, 2000, 2010) targeted at helping parents learn to provide appropriate structure and autonomy-support has demonstrated significant improvements in regard to autonomy-supportive parenting and child well-being (Joussemet et al., 2014). However, the majority of these programs have not been adapted for adolescent populations and the specific developmental issues that may arise during
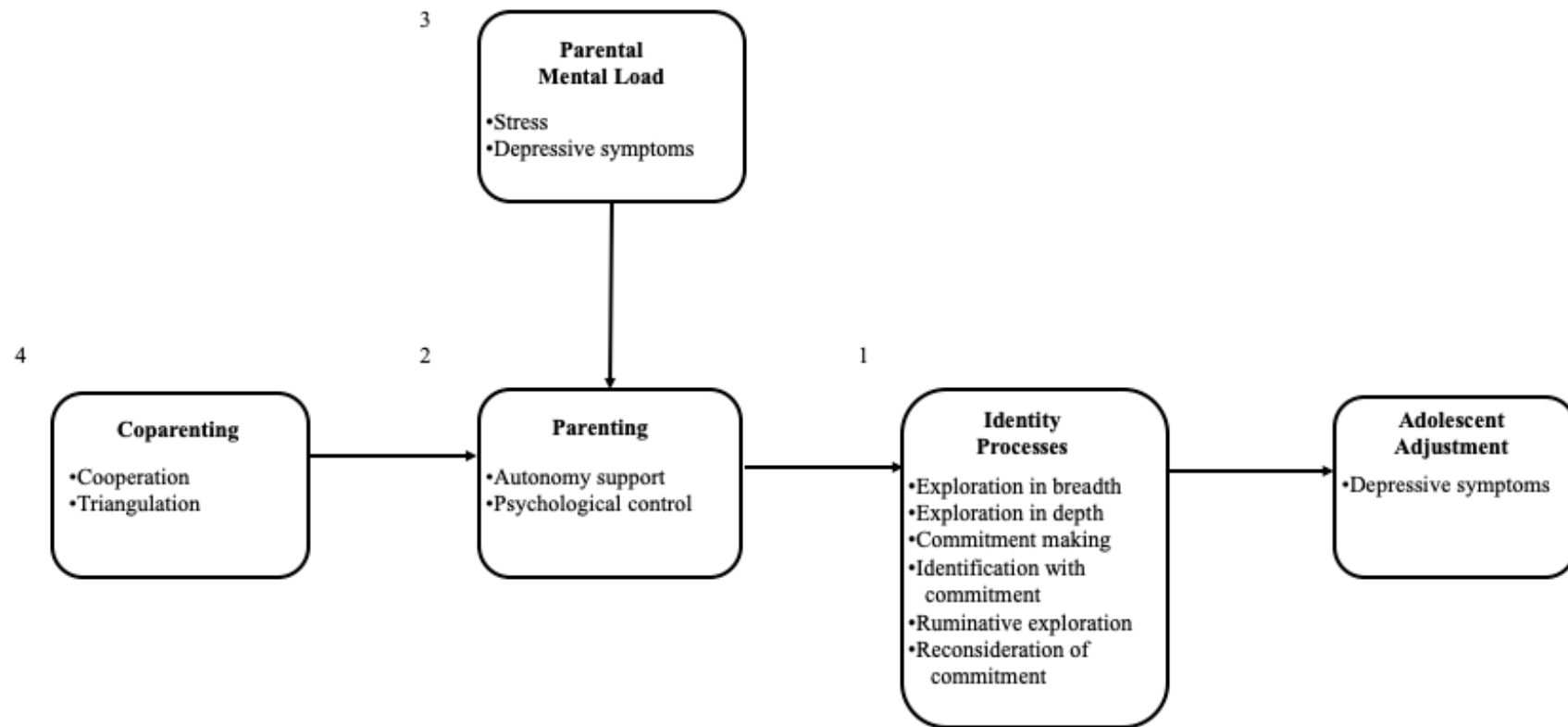
Figure 6.1. Targets for clinical intervention for adolescent identity formation

this period. Thus, it may be useful for future studies to focus on the development of such parenting programs for parents of adolescents.

Moreover, parents may not always be aware of their use of psychological control or they may be using it in a way that they feel is helpful to their children i.e., protecting their child from making what parents consider to be bad decisions (Soenens et al., 2010). However, no matter what the motivation for the use of parental psychological control, it still has grave consequences on adolescents. For this reason it, may be important to provide such parenting programs not only to clinical samples, but rather to community samples as a preventative approach to later adolescent developmental difficulties and psychopathology. Furthermore, it may be beneficial for such interventions to come as early as possible, helping parents gain autonomy-supportive skills that they can make use of throughout their child's development.

Furthermore, relatively little attention has been given to identifying age-specific manifestations of the need for autonomy support and what autonomy supportive-parenting would look like for these age-specific periods. During adolescence, such parenting programs could focus more specifically on parents' provision of autonomy support in the context of adolescents' identity formation and the construction of adolescents' inner compass (Assor, 2017). Such interventions could focus on helping parents develop the specific skills for this developmental task and not only for general autonomy supportive parenting (Assor, 2012, 2017). More specifically, parents could help facilitate adolescents reflective authentic inner compass development (Assor et al., 2020). Reflective authentic inner compass facilitation (RAICF) refers specifically to parental behaviors that support adolescents' motivation and capacity to explore and examine values, interests, and commitments, which would allow them to live in an

authentic and fulfilling way (Assor, 2012). RAICF is composed of: (1) supporting value, interest, and commitment examination (SVE), (2) fostering inner valuing (FIV), and (3) supporting authentic inner-compass clarification and formation (SIC; Assor et al., 2020). SVE involves direct encouragement of adolescents' exploration of different types of values, interests and derived commitments (Assor et al., 2020). FIV involves parents' way of responding when adolescents are faced with difficult dilemmas (Assor et al., 2020). Lastly, SIC refers to adult responses that may enable adolescents to conduct a serious search for values, interests, and goals that they truly identify with (Assor et al., 2020). While both basic autonomy support and RAICF involve supporting adolescents' ability to be self-directing individuals, they differ in that RAICF takes a more active stance (Assor et al., 2020). Indeed, RAICF uniquely predicted feelings of having an authentic inner-compass (coherent sense of self), over and above basic autonomy support (Assor et al., 2020). Thus, such programs could help parents in their specific autonomy support of adolescent identity development.

A third point of entry is to support a parent's intrapsychic world (Figure 6.1, entry point 3). Clearly the results of the present dissertation demonstrate that mothers who experience a heavier mental load (i.e., elevated levels of stress and depressive symptoms) have greater difficulty in providing autonomy-supportive parenting. Thus, it is important for parents to get the psychological support they need. Furthermore, the findings of the present dissertation make it clear that parents do not need to be suffering from severe psychopathology for it to have negative consequences on their parenting. Parents in the present dissertation came from a non-clinical sample and yet their levels of stress and depressive symptoms were important enough to impact their parenting. Often two of the greatest obstacles for parents to receive psychological support are cost and access

(Gratzer & Goldbloom, 2016; Mohr et al., 2006). Recently, new methods of delivering talk and self-help therapies have been in development, making it easier than ever for people to access support. These can come in various forms including: fully on-line access to therapists, mixed-designs including both on-line and in person meetings with therapists, and self-help based approaches using applications for smartphones (e.g., Bakker & Rickard, 2018; Bennion et al., 2017; Stawarz et al., 2020). Findings from empirical studies suggest that these novel approaches have demonstrated significant improvements in levels of stress and depression (Bennion et al., 2017; Birney et al., 2016). This may be a very useful method for parents suffering from stress and non-clinical levels of depression to get the necessary support, in order to ultimately be able to provide a parenting environment conducive to adolescent development.

A fourth point of entry is to work with parents on their coparenting relationship (Figure 6.1, entry point 4). The present dissertation brings to light the important role coparenting has on adolescent identity formation and more specifically, how unhealthy dynamics in the coparenting realm can have detrimental effects on parenting. Thus, by addressing problematic coparenting dynamics, clinicians can help reduce the negative fallout from this subsystem. In this regard, studies have found a ripple effect in family focused interventions whereby improvements in coparenting may also result in improvements in parenting and marital quality (C. P. Cowan & Cowan, 1995; de Roten et al., 2018).

Intervening to improve coparenting dynamics is not a new concept, but has been of interests to scholars and clinicians for over 60 years (McHale et al., 2019). Numerous interventions strategies exist targeting different constellations of parents including: interventions targeted at one parent (e.g., P. A. Cowan et al., 2009), married two-parents

(e.g., Feinberg et al., 2010), unmarried two-parents (e.g., Epstein et al., 2015; Florsheim et al., 2012), or divorced parents (e.g., B. D. Garber, 2004). In general, interventions targeted at both parents have demonstrated more significant improvements in coparenting than those targeted at a single parent (P. A. Cowan et al., 2009; McHale et al., 2019). While coparenting interventions have been used as preventative interventions in preparation for the transition to parenthood (Feinberg et al., 2010), a similar approach may be beneficial as children approach adolescence and the new and increasing demands of this developmental period on parents and children alike. Intervening at this stage may allow parents to develop strong coparenting roles, aiding one another to approach common issues of adolescence as a team.

Limitations and Future Directions

The present dissertation has contributed further understanding of adolescent identity development in the context of autonomy supportive and psychologically controlling parenting. Furthermore, novel aspects of the family including coparenting and parental mental load have been explored in relation to adolescent identity development putting into light other contextual variables that can impact the way in which adolescents take on identity formation. With this, a number of limitations must also be addressed opening the doors to future work.

First, one of the greatest limitations to the interpretability of findings is our focus on associative relationships and unidirectional effects (e.g., the role of parenting on identity formation or the role of coparenting on parenting). Indeed, the fact that we cannot speak to whether or not parenting leads to identity formation or whether adolescents' use of certain identity behaviors influence parents to act in a specific way, for example

ruminative exploration may lead to increases in psychological control, limits our findings. It is very probable that these relationships are bidirectional. Thus, while our explorations took the stance that parenting context influenced identity, bidirectional analyses would put into light the complexity of such relationships, as has been previously demonstrated (e.g., Crocetti et al., 2017; Luyckx, Soenens, Vansteenkiste, et al., 2007; Schwartz, Mason, Pantin, & Szapocznik, 2009). This goes accordingly for coparenting and parenting. While our hypothesized model assumed coparenting to spillover onto parenting, as has been previously suggested (Jones et al., 2003; Shook et al., 2010), it is possible that parenting could also influence coparenting.

This leads to our second limitation in that we for the most part relied on cross-sectional analyses, and only in Chapter 3 did we utilize a longitudinal design. Thus, the majority of findings discussed in the present dissertation came from a single point in time. Much can be gained by conducting future longitudinal analyses, especially in regard to the role of coparenting for adolescent identity formation as well as the intergenerational transmission of psychopathology, for example via the use of cross-lagged panel designs. Similarly, micro-levels approaches making use of daily dairy methodologies could be used to better ascertain the dynamic nature of identity development and its relation to perceived parenting both in terms of short-term development (i.e., over weeks) or long-term development (i.e., over years; Klimstra et al., 2010; Schwartz, Klimstra, et al., 2011). For example, does an adolescent explore less on a day when they perceive higher levels of parental psychological control versus days when they perceive lower levels of control. Past findings using a single time point have indeed demonstrated real time parent-child interactions to trigger identity exploration (Grotevant & Cooper, 1985), thus future studies could investigate whether such a dynamic would be evidenced over time.

Another limitation was our heavy reliance on self-report measures. While in Chapter 5 we made use of a multi-informant design whereby certain aspects of parent self-report and adolescent self-report we taken into account, all other analyses relied solely on the self-report of adolescents. Self-report measures were deemed appropriate for the present investigation given the intrapsychic nature of the studied variables, however, future studies could make use of alternative methodologies which could act to enrich findings. For example, the use of observational studies may help to better capture the transactional nature of adolescent parent interactions (e.g., Allen et al., 1994). Similarly, especially in regard to identity, integrating a narrative approach with self-report measures can help provide a more qualitative understanding as to how adolescents take on such a developmental task and their personal interpretations of life events (McAdams et al., 2006; Sica et al., 2017).

On a similar note, our findings our limited by the way we assessed parenting. That is, adolescents were asked to report on their perception of parenting without distinguishing between their mother and father. We approached the assessment of parenting in this way as we were interested in how parenting was being perceived in general and not necessarily the specific contribution of mothers versus fathers. While this approach provides a general sense of parenting within a household, previous studies have reported differential effects for mothers and fathers (Benson et al., 1992; Beyers & Goossens, 2008). Furthermore, certain studies have found differential effects of mothers' and fathers' parenting style dependent on the gender of their child (e.g., father with sons versus fathers with daughters; Beyers & Goossens, 2008). Thus, future research could attempt to answer such questions by differentiating between mothers and fathers.

Furthermore, another limitation concerns the implicit messaging in the present dissertation and the importance of not placing overly due pressure on parents and more specifically mothers (Caplan & Hall-McCorquodale, 1985). While historical theories of parenting focused on mothers as being largely responsible for maladaptive development in children (i.e., attachment theory, Freudian theories; Phares, 1992), in the present dissertation, we were interested in both the role of mothers and fathers. However, as a result of lack of participation of fathers we were unable to replicate our analyses for both parents. Thus, Chapter 5 specifically investigated the role of mothers and the parental mental load of mothers as it relates to adolescent development. This is not to suggest that mothers are solely responsible for how their adolescent develops. In fact, more recent literature has demonstrated that fathers play an important role in adolescent development (Brennan et al., 2002). However, given that we did not specifically seek out participation of fathers but rather recruited parents in general, we had a much greater participation of mothers. Future studies should investigated whether similar finding would be found for fathers.

Similarly, the present dissertation investigated contextual factors relating to family dynamics and parenting as well as parental mental load. Two caveats much be mentioned in this regard. Firstly, these pressures on parents be it parental mental load or coparenting do not exist in isolation, but rather my interact with one another. Thus, it is possible that parental mental load, for example, may interact with coparenting, moderating its association with parenting. Secondly, an adolescents' family environment (i.e., the predominant contextual factor under study in the present dissertation) makes up only one part of their environment (Bronfenbrenner, 1979). As mentioned in earlier chapters, identity formation is a process of person-context interaction (Erikson, 1968). In

line with Bronfenbrenner's ecological system's people are situated in a number of different systems, from the most direct microsystem to the more external macrosystem (Bronfenbrenner, 1979). Thus, while parents play an important role in adolescents' identity development on a micro-contextual level, a number of other macro-contextual factors at the societal level may play similarly important roles (Côté & Levine, 2002). Future work should therefore consider the role of such macro-contextual variables including how societal beleifs and economic pressures may impact adolescents' identity formation.

Another limitation of the present dissertation is its reliance on the Swiss context. While a number of important findings were put into light, as previously mentioned, the Swiss context is unique in its cultural makeup. More specifically, while at first glance it may appear as though our population was predominantly, but not fully Swiss (see demographic descriptions in the empirical chapters), Switzerland is unique in that nationality is not a birth right. Thus, it is relatively common for people to hold nationalities from other countries having been born and raised in Switzerland. Thus, interpretations in regard to cultural implications of our study should be made with caution. Furthermore, similar investigations should be carried out in culturally diverse populations.

Lastly, certain limitations should be brought to light concerning the use of specific questionnaires. The first concerns the use of the dimensions of identity scale (DIDS), which was used to assess the six identity processes. While the six-factor model fitted the data better than the five-factor model (see Chapter 3), resulting in six identity processes over the original five conceptualized in the dual-cycle model, the number of items in each subscale were no longer balanced. More specifically, in the derivation of exploration in

depth into a true exploration in depth and reconsideration of commitment, we ended up with one subscale of two items (i.e., true exploration in depth) and one subscale of three items (i.e., reconsideration of commitment; see also Zimmermann et al., 2015). In order to improve scale reliability, future studies should address the development of additional items for the exploration in depth and reconsideration of commitment subscales. Similarly, in an effort to simplify and integrate the two process based identity models (i.e., the dual-cycle model and the three-factor model) future studies could attempt to empirically explore the differences in identity statuses using a five-dimensional DIDS (Luyckx, Schwartz, Berzonsky, et al., 2008) versus a six dimensional DIDS (Albert Sznitman, Zimmermann, et al., 2019b; Zimmermann et al., 2015). More specifically, one could empirically derive identity statuses using the original five-dimensional DIDS and compare identity status membership with empirically derived identity statuses using the commitment making, and newly derived true exploration in depth and reconsideration of commitment (the three dimensions of the three-factor model) and lastly identity status membership using the integrated six-dimensional DIDS. This comparison would provide better insight as to the unique contribution of each model and whether identity status membership changes based on the identity model.

The final limitation concerns our measure of coparenting, the coparenting inventory for parents and adolescents (CI-PA). We chose to use the CI-PA given its novelty in assessing multiple aspects of coparenting from both the adolescent and parent perspective. In its original form the CI-PA assesses three aspects of coparenting: cooperation, triangulation, and conflict. Adolescents are asked to report on these three aspects of coparenting in regard to their parents as a dyad as well the specific maternal and paternal contribution to coparenting. However, in a recent examination by our

research group, we demonstrated that a two-factor model fitted the data better for adolescent reports of dyadic coparenting than did a three-factor model (Zimmermann et al., 2020). More specifically, the two-factor model demonstrated items of triangulation to load onto one factor whereas items of cooperation and conflict both loaded onto a second factor. In other words, the high correlation between cooperation and conflict ($r = - .72$) was believed to reflect a misdefinition of conflict as more so measuring disagreement (i.e., the negative pole of cooperation) rather than the presence of parental fights over child-rearing (Favez & Frascarolo, 2013; Zimmermann et al., 2020). However, it is believed that both coparenting conflict as well as coparenting cooperation may play differing but important roles in regard to adolescent identity formation via spillover onto the parenting domain (Teubert & Pinquart, 2010, 2011b). Thus, future work may wish to focus on the development of more well-defined items of coparenting conflict in order to be able to better ascertain the role of coparental conflict on adolescent development.

Where to Go From Here: Future Outlook

A number of avenues for future work were born out of the findings of the present dissertation. First, while autonomy-supportive parenting was found to promote more mature identity statuses and trajectories, as defined by higher levels of commitment, it is important to take into account the fact that not all identity commitment are created equally (Soenens & Vansteenkiste, 2011). Not only is it important that adolescents explore and form commitments, but the motivation behind the making of such decisions are of equally if not greater importance (Soenens et al., 2011). In this regard, the exploration of and making of commitments can be driven by different motives (Soenens et al., 2011). While certain adolescents will form commitments that truly reflect their goals and values, other

adolescents may make commitments as a result of self-imposed or externally pressured demands (Soenens et al., 2011). In this sense, SDT describes people's motives as being on a continuum from externally controlled to integrated volitional functioning (Soenens et al., 2011). When commitments and exploratory behaviors are based on intrinsic (or well-internalized) motivations, adolescents' basic needs for autonomy, competence, and relatedness will be satisfied, ultimately contributing to their overall well-being (Luyckx et al., 2009; Ryan & Deci, 2000a).

Based on the findings of the present dissertation, one may speculate that adolescents characterized by the highest and stable levels of autonomy support, may be the most likely to base identity commitments and exploration off of intrinsic or integrated motivations, given that autonomy supportive parenting promotes internalization (Grolnick et al., 1997). On the other hand, adolescents experiencing the highest levels of psychological control may be more likely to use controlled motives, given that parental use of internally controlling tactics induce internal pressures to comply with parental authority, ultimately resulting in the enactment of parentally desired behaviors (Assor et al., 2004; Soenens & Vansteenkiste, 2010). Indeed, it has been found that parents use of psychological control leads to more controlled and less autonomous motives for studying (Vansteenkiste et al., 2005). Thus, it is possible that identity statuses/trajectories characterized by the highest stable levels of psychological control (i.e., foreclosure and guardians), may be more likely to use introjected motives. Future investigations could make use of measures specifically assessing the motives for the making of identity commitments and for the exploration of identity options, for example the self-regulation questionnaire adapted for identity commitments (Ryan & Connell, 1989; Soenens et al., 2011). These motives can then be explored in relation to the parental provision of

autonomy support and adolescent membership in specific identity trajectories. A clearer understanding as to the underlying motives of identity exploration and commitment, could provide insight into the optimal interventional approaches to use with different adolescents.

Second, future research could investigate the derivation of a specific autonomy supportive parenting scale in the realm of identity formation. Indeed, as discussed previously, basic autonomy supportive parenting is important for the development of a coherent and synthesized identity (Assor et al., 2020; Joussemet et al., 2008), however, more specific autonomy supportive behaviors may be particularly relevant in the realm of identity formation, for example reflective authentic inner compass facilitation (Assor, 2012). Thus, it may be of interest for future studies to investigate how autonomy supportive parenting looks like in the context of identity formation over and above basic autonomy supportive parenting and to be able to evaluate whether parents are providing general autonomy support, or more specific autonomy support in regard to their adolescents' identity development. Furthermore, future studies could make use observational methods to observe in context how discussions evolve concerning adolescent identity exploration and commitment. Such studies could ask parents and adolescent children to discuss an identity relevant topic, i.e., discuss your child's future plans together, in order to get a more objective account of how such discussion evolve. The ability to objectively observe such discussion would also allow for a better understanding as to how parents go about discussing identity related issues i.e., through direct versus indirect conversation. Parents whom themselves are unclear in regard to identity related issues may find it more difficult to help support their adolescent in identity related questions. Such discussion tasks have been found to be particularly useful in

identifying patterns of family interaction as well as patterns of interaction that are difficult to describe for example, nonverbal behavior and affective expression (Lindahl, 2000).

Third, future research could investigate the role of coparenting in regard to adolescent basic need fulfillment. Whereas abundant research, including the present dissertation, have investigated the role of parenting in regard to the fulfilment of an adolescents' basic needs (e.g., Joussemet et al., 2008; Soenens et al., 2007; Van Petegem et al., 2015), and specifically in the present dissertation, an adolescents' basic need for autonomy, no research to date has taken such an approach with coparenting. In line with SDT, all humans have three basic needs, competence, relatedness, and autonomy (Ryan, 1995; Ryan & Deci, 2000a). Whereas parents can promote the satisfaction of a child's need of autonomy through autonomy supportive parenting, satisfaction of a child's need for competence can be promoted through the provision of structure (Grolnick, 2003). While parents may work to individually provide structure (Grolnick & Pomerantz, 2009), the extent to which parents are coordinated in this support may also be of importance. In this regard, coparents who work together in a cooperative manner, providing coherent and consistent sets of rules and standards may help contribute to their child's need of competence (McHale et al., 2002; McHale, 2007b). In fact, the perceived cohesiveness between caregivers is what ultimately serves as a child's central locus of security (Cummings & Davies, 1996; McHale, 2007b). Hence, it is possible that coparenting may help respond to an adolescents' need for competence through the provision of structure. This may then contribute to our understanding as to the important role coparenting plays in adolescent development. Thus, future research may wish to investigate how coparenting in conjunction parental structure helps contribute to the fulfillment of a child's need for competence.

Another avenue for future research could be to investigate the importance of parental congruence versus incongruence and its implication for coparenting styles and adolescent identity formation. Indeed previous research has found that different patterns of maternal and paternal parenting (i.e., permissive vs authoritative parenting) are differentially related to adolescent emotional adjustment (McKinney & Renk, 2008). More specifically, the incongruence between parents was less important in regard to adolescent emotional well-being, with adolescent having at least one authoritative parent faring better in regard to emotional adjustment (McKinney & Renk, 2008). Thus, future research could investigate whether the presence of at least one autonomy-supportive parent is more beneficial for adolescent identity formation, rather than congruence between both parents in the form of psychological control, for example.

A final direction for future research is to build off of the preliminary findings of the present dissertation supporting an intergenerational model of transmission of psychopathology via maladaptive identity formation. While our investigation in Chapter 5 lends support to such a model, our findings our limited by their cross-sectional nature. Thus, future studies could use a longitudinal design to derive trajectories of growth and examine how change in one construct effects change in another. Such an analytic approach would allow for a more developmental conclusion to be drawn. Indeed, there has been a recent call for more thorough investigations into the potential mechanisms leading to adolescent depression (Becht et al., 2019; Kessler et al., 2005). As suggested by Klimstra and Denissen (2017), one such pathway leading to psychopathology in adolescents may be via disturbances to identity formation.

Moreover, future investigations into such an intergenerational model may wish to include measures of current and lifelong parental depression. While lifetime severity of

psychiatric diagnoses have been shown to contribute less to child outcomes than do current maternal symptoms of depression (Hammen et al., 1987), it is possible that given the developmental nature of identity formation, lifelong depressive symptoms may predict more troublesome identity development. Thus, it would be illuminating to see if adolescents whose parents suffered from elevated levels of stress and depressive symptoms over years, had the greatest difficult in forming a coherent sense of self as compared to an adolescent whose parent suffered for a shorter amount of time. Lastly, in line with the principle of equifinality proposing that multiple pathways contribute to psychopathology (Cicchetti & Rogosch, 1996), a comprehensive study taking into account both environmental and genetic pathways, would be of great interest and provide a more thorough picture of the intergenerational transmission of psychopathology.

What Does this Suggest for Abe?

Alas, what insight can the findings of the present dissertation bring to our understanding of Abe's situation from Chapter 1. Although we are only provided a small snapshot of Abe's life within his family, we can attempt to respond to a number of our earlier questions. Indeed, Abe's parent's appear more focused on their own needs as opposed to Abe's. They decide for him that he will be neither Jewish nor Muslim, whereas Abe would prefer to identify as both religions. Findings from the present dissertation suggest that this kind of control will most likely have potentially grave consequences for Abe's identity formation. He may feel caught between the loyalties of his parents and his own personal desires resulting in an inability to form a commitment. On the other hand, a positive factor appears to be the fact that Abe's parents are together in their belief as to Abe's religious identity. Perhaps this positive coparenting dynamic could spillover onto the parenting dynamic. Lastly, Abe's parents appear to be experiencing great amounts of

pressure from their own parents as to what decision Abe should make. Should Abe's parents experience this pressure as stress, the present dissertation has highlighted the harmful consequences this could have on a parents' reliance on less autonomy-supportive parenting. Thus, while Abe is a fictional character, his family dynamic exemplifies the complexity of the adolescent task of forming a personal identity within the context of one's family. Our hope is that the we have helped provide insight into this intricate developmental process, while providing inspiration for areas of future work.

General Conclusion

The present dissertation aimed at contributing to our understanding of adolescent identity formation within the family context. In Erikson's original conceptualization, identity formation was defined as a psychosocial process in which one's identity is formed within a social context (Erikson, 1968). While for a great amount of time more attention has been given to identity as an intrapsychic concept, we succeeded in contributing to the recent and considerable interest given to the role of the family for adolescent identity formation (Beyers & Goossens, 2008; e.g., Crocetti et al., 2017; Luyckx, Soenens, Goossens, et al., 2007; Schwartz, Pantin, et al., 2005). The present dissertation focused specifically on parenting from a SDT perspective bringing to light the importance of autonomy-supportive and psychologically controlling parenting for this developmental process. More specifically, we used both person-centered and variable-centered approaches to gain a comprehensive view as to how parents of Swiss middles adolescents may both promote and inhibit their adolescents' identity formation. In this regard, we provided novel insight into the identity development of Swiss adolescents. Whereas higher levels of autonomy-supportive parenting promoted healthier identity

formation both in the form of more mature identity statuses as well as increased levels of exploration in breadth, commitment making, exploration in depth, and identification with commitment, higher levels of psychologically controlling parenting promoted more maladaptive identity formation in the form of less mature identity statuses and increased levels of ruminative exploration. Further, we provided novel insight as to how the triadic family dynamic of coparenting contributes to adolescent identity formation via its antecedent effect on parenting. Thus, it is not only crucial that a parent supports their child's need for autonomy, but similarly that parents work together on creating a cooperative coparenting relationship. Lastly, this dissertation is one of the first of its kind to investigate a model of transgenerational similarity of psychopathology via impairments to adolescent identity formation. The findings of such an all-encompassing model highlight the potential grave consequences of subclinical levels of depression and elevated levels of stress to adolescent's overall development. Together these findings suggest multiple levels of intervention in aiding and supporting healthy identity formation in adolescents. In a society where identity formation is being experienced as potential overwhelming given the seemingly unlimited possibilities (Arnett, 2000), aiding both adolescents and parents alike will become essential in the maintenance of a healthy and well-functioning society.

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