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IDENTITY STYLES IN ADOLESCENCE

Measurement and associations with perceived parenting, personal well-being, and interpersonal functioning

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Promotor: Prof. Dr. L. Goossens
Co-promotor: Prof. Dr. B. Soenens

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ILSE SMITS. Identity styles in adolescence: Measurement and associations with perceived parenting, personal well-being, and interpersonal functioning

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Supervisor: Prof. Dr. L. Goossens ; Co-supervisor: Prof. Dr. B. Soenens

The purpose of this dissertation is to better understand the identity styles, that is, different ways to process identity-relevant information. In recent years, a substantial literature has emerged on identity styles. This dissertation aims to add to the literature on identity styles in a number of ways.

First, we examined associations between crucial dimensions of perceived parenting (i.e., support, behavioral control, and psychological control) and the identity styles. An information-oriented identity style was positively predicted by parental support and by psychological control. A normative identity style was positively predicted by support and behavioral control. A diffuse-avoidant identity style was positively predicted by psychological control and negatively by maternal behavioral control.

Second, this dissertation reports on the construction and psychometric evaluation of the Identity Style Inventory–Version 4. Through both exploratory and confirmatory factor analyses, a 24-item version was developed. Psychometric properties of the instrument were examined in a cross-national study involving three countries (i.e., Belgium, the Netherlands, and the US). Test-retest and stability estimates were satisfactory and correlations with related constructs were in the expected direction.

Third, we examined associations between motives behind using an information-oriented or a normative identity style and aspects of adolescents' psychosocial adjustment. It was found that the motives behind the identity styles explained additional variance beyond the identity styles in commitment and personal well-being, but not in ethnic prejudice.

Fourth, we found that empathy played an intervening role between the information-oriented style and interpersonal behavior and between the diffuse-avoidant style and interpersonal behavior. However, empathy did not play an intervening role between the normative style and interpersonal behavior.

Fifth, we found that attachment to friends could explain obtained relationships between identity styles and intimacy in three ways. First, attachment avoidance and attachment anxiety fully mediated the relation between the diffuse-avoidant style and loneliness. Second, the effect of the information-oriented style on friendship quality was partially mediated by attachment avoidance. Third, there were indirect effects through attachment avoidance from the information-oriented style on loneliness and from the diffuse-avoidant style on friendship quality. There were also indirect effects through attachment anxiety from the normative style on loneliness and on friendship quality.

In a final chapter, implications of these findings for identity theory are discussed and suggestions for future research are outlined.

ILSE SMITS. Identiteitsstijlen in de adolescentie: Meting en relaties met opvoeding, persoonlijk welbevinden en interpersoonlijk functioneren.
Proefschrift aangeboden tot het verkrijgen van de graad van Doctor in de Psychologie, 2009.
Promotor: Prof. Dr. L. Goossens ; Co-promotor: Prof. Dr. B. Soenens

Het doel van dit proefschrift is om beter zicht te krijgen op identiteitsstijlen, manieren om identiteitsgerelateerde informatie te verwerken. De laatste jaren is er heel wat literatuur verschenen over deze stijlen. Dit proefschrift probeert op verschillende manieren de literatuur over identiteitsstijlen uit te breiden.

We hebben eerst de relaties tussen cruciale opvoedingsdimensies en de stijlen onderzocht. Een informatie-georiënteerde stijl werd positief voorspeld door steun en psychologische controle. Een normatieve stijl werd positief voorspeld door steun en gedragsmatige controle. Een verward-vermijdende stijl werd positief voorspeld door psychologische controle en negatief door gedragsmatige controle van de moeder.

Ten tweede construeerden we de Identity Style Inventory-Version 4. Via exploratorische en confirmatorische factoranalyses werd een versie met 24 items ontwikkeld. De psychometrische eigenschappen van het instrument werden onderzocht in een cross-nationale studie in drie landen, namelijk België, Nederland en de Verenigde Staten. De test-hertest betrouwbaarheid en de stabiliteit waren bevredigend en de correlaties met gerelateerde constructen waren in de verwachte richting.

Ten derde onderzochten we de relaties tussen motieven achter het gebruik van een informatie-georiënteerde of een normatieve stijl en aspecten van psychosociale aanpassing van adolescenten. Er werd gevonden dat de motieven achter de stijlen bijkomende variantie verklaarden bovenop de stijlen in identiteitsbinding en persoonlijk welbevinden, maar niet in ethnische vooroordelen.

Ten vierde vonden we dat empathie een tussenliggende rol speelde tussen enerzijds de informatie-georiënteerde stijl en interpersoonlijk gedrag en anderzijds tussen de verward-vermijdende stijl en interpersoonlijk gedrag. Empathie speelde geen tussenliggende rol tussen de normatieve stijl en interpersoonlijk gedrag.

Ten vijfde vonden we dat gehechtheid aan vrienden een belangrijke tussenliggende variabele was die relaties tussen stijlen en intimiteit kan verklaren. (a) De relatie tussen de verward-vermijdende stijl en intimiteit werd volledig gemedieerd door gehechtheid. (b) Het effect van de informatie-georiënteerde stijl op vriendschapskwaliteit werd partieel gemedieerd door vermijdende gehechtheid. (c) Er waren indirecte effecten via vermijdende gehechtheid van de informatie-georiënteerde stijl op eenzaamheid en van de verward-vermijdende stijl op vriendschapskwaliteit. Er waren ook indirecte effecten via angstige gehechtheid van de normatieve stijl op eenzaamheid en vriendschapskwaliteit.

In een laatste hoofdstuk worden de implicaties van deze bevindingen voor de identiteitstheorie besproken en suggesties voor verder onderzoek gedaan.

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Voor mijn papa

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Chapter 1

Introduction

A crucial task during adolescence is to make important life decisions such as a study choice. Some adolescents will gather as much information about different studies as they can to make a well-considered choice. Other adolescents will study what their parents expect or want them to do. Still other adolescents procrastinate their decision until the classes start and then make a superficial intuition-based study decision. It is clear, then, that there are important individual differences in the styles adolescents use to explore their possibilities or to process identity-relevant information. These individual differences in approaching important life decisions are referred to as identity styles.

In recent years, a substantial literature on adolescent identity styles has emerged. Several important issues such as the adjustment correlates of identity styles and the influence of parents on the development of identity styles have been investigated. This dissertation aims to add to the literature on identity styles in a number of ways. In this introductory chapter, we will do two things before we proceed to the five empirical chapters of this dissertation (Chapters 2 to 6). We will first situate the concept of identity styles in the existing theories and literature about identity. Second, we will outline a number of unresolved issues in identity style research. The basic objectives of this dissertation are to resolve these issues. The final chapter, Chapter 7, provides a brief overview and discussion of the findings of the present dissertation.

THEORETICAL FRAMEWORK

Identity, Identity Status, and Identity Style

Erikson (1968) conceptualizes the life cycle as a series of stages or critical periods of development which each involve a bipolar conflict that must be addressed and resolved before one can proceed unhindered to a next stage. Identity versus role confusion, which comes to the fore during adolescence, is the fifth stage in this sequence of eight life conflicts. Adolescence is assumed to be the first developmental period in which the necessary intellectual, emotional, physical, and societal factors are sufficiently present to allow that identity issues be dealt with. During this period, an adolescent is expected to develop a personal view on issues of occupation, politics, philosophy, and religion. Thus, a sense of identity can be viewed as a self-constructed dynamic organization of drives, abilities, beliefs, and personal history into a coherent and autonomous self that guides the unfolding of one's adult life course.

The identity formation process, as defined by Erikson (1968), has been empirically approached by Marcia (1980) along two orthogonal dimensions, that is, exploration and commitment. Exploration refers to both the degree of self-examination about one's values, beliefs, and goals, and the degree of exploration of various social roles, whereas commitment refers to the possession of a stable set of convictions, values, and goals. These two dimensions define four identity statuses: diffusion

(low commitment, low exploration), foreclosure (high commitment, low exploration), moratorium (low commitment, high exploration), and achievement (high commitment, high exploration) (see also Goossens, 2001). For over a quarter of a century, a thriving body of research has been inspired and sustained by the identity status model. Reliable status differences have been found on numerous personality, interpersonal, developmental, and social-psychological variables. A growing body of research also suggests that individuals within the identity statuses differ on important social-cognitive dimensions (Berzonsky, 1988; Bourne, 1978; Marcia, 1980; Waterman, 1982). However, according to Côté and Levine (1988), Marcia over-emphasized the commitment aspect, suggesting that there exists something like a fully achieved identity (Bosma & Kunnen, 2001; Soenens & Luyckx, 2003), whereas Erikson has stressed that identity development is a never-ending and dynamic developmental process.

   To redress the balance, Berzonsky (1989, 1990) proposed to consider identity in terms of how adolescents process identity-relevant information rather than as a fixed developmental outcome. In this regard, Berzonsky re-emphasizes (the quality of) exploration. Specifically, Berzonsky (1990) introduced three different identity styles: The information-oriented, the normative, and the diffuse-avoidant identity style. Adolescents using an information-oriented style deal with identity issues by actively seeking out, processing, and utilizing identity-relevant

information in order to make well-informed choices, which results in a well-differentiated and well-integrated identity structure. In contrast, adolescents using a normative style focus on the normative expectations and prescriptions held up by significant others and reference groups, which results in an identity structure that is characterized by conservative and inflexible attitudes. Finally, adolescents using a diffuse-avoidant style procrastinate decisions about personal problems and their identity until situational demands force a choice onto them, which results in a fragmented and loosely integrated identity structure.

Although Berzonsky's model clearly differs from Marcia's model, there are also some similarities. According to Berzonsky (1989), each identity style is underlying to a specific identity status. People in the achievement and moratorium status would predominantly use an information-oriented identity style, people in the foreclosure status would predominantly use a normative identity style, and people in the diffusion status would predominantly use a diffuse-avoidant identity style. All these associations were confirmed by empirical research (Berman, Schwartz, Kurtines, & Berman, 2001; Berzonsky & Niemeyer, 1994; Schwartz, Mullis, Waterman, & Dunham, 2000).

Three Style-Specific Patterns of Correlates

The bulk of research on identity styles has focused on the correlates of identity styles, for instance, in terms of

adolescents' well-being, cognitive processing styles, coping, interpersonal functioning, and socio-political attitudes. Research, mainly among late adolescents (18 to 21 years of age), has shown that each of the identity styles shows a specific pattern of associations with indicators of adolescents' functioning.

Adolescents who use an **information-oriented** identity style have a strong need to engage in adaptive cognitive activities, a willingness to consider alternative ideas (Berzonsky & Sullivan, 1992), and they use a vigilant decisional strategy (Berzonsky & Ferrari, 1996). They tend to use problem-focused and seeking-social-support coping strategies, and do not rely on wishful thinking, emotional distancing, and anxious reactions (Berzonsky, 1992b; Seaton & Beaumont, 2008). Information-oriented adolescents possess the life-management skills needed to effectively structure their lives and manage their time to deal with academic demands in a responsible, self-regulated fashion (Berzonsky & Kuk, 2000). They use effective strategies such as expecting success, seeking social support, and do not engage in task-irrelevant behavior (Nurmi, Berzonsky, Tammi, & Kinney, 1997). Consequently, these adolescents show academic autonomy, educational involvement (Berzonsky & Kuk, 2000), and high levels of self-esteem (Nurmi et al., 1997). They also critically evaluate whether certain religious contents correspond to their personal self-definitions which leads to the interpretation of religious contents in a personal and symbolic way (Duriez,

Soenens, & Beyers, 2004; Duriez, Smits, & Goossens, 2008). An information-oriented identity style is negatively related to need for closure and measures of prejudice and conservatism (Soenens, Duriez, & Goossens, 2005). Consequently, adolescents who use this style describe themselves as being tolerant and having open, mature, and honest relationships (Berzonsky & Kuk, 2000). Information-oriented adolescents also have lesser chances of manifesting conduct or hyperactivity problems (Adams et al., 2001). Overall then, an information-oriented style seems to be associated with adaptive developmental outcomes, both at the personal and at the interpersonal level.

Adolescents who use a **normative** identity style deal with stressors by relying on avoidance tactics such as distancing and wishful thinking. They show increased debilitative and decreased facilitative anxiety reactions (Berzonsky, 1992a). This is in line with their rigid and closed way of information-processing. Such defensive attitudes may serve the role of protecting the individual from having to deal with dissonance-inducing experiences and information that might threaten or invalidate critical self-views (Berzonsky & Sullivan, 1992). Normative adolescents hold firm personal commitments, suggesting that they may foreclose their options and use relatively automatic means of resolving decisional tasks (Berzonsky & Ferrari, 1996). As a consequence, their sense of academic purpose is more externally based and inflexible

(Berzonsky & Kuk, 2000). Normative adolescents are also more religious, at least in a context that is characterized by a strong religious tradition. They show a slight tendency to interpret religious phenomena in a literal way (Duriez et al., 2004, 2008). A normative and close-minded identity style is positively associated with need for closure, right-wing authoritarianism, and racism, indicating that a normative style is characterized by a passive, submissive, and obedient orientation towards important authority and identification figures (Soenens, Duriez, et al., 2005). Perhaps as a consequence of this strong endorsement of social norms and conventions, normative individuals are at low risk for problem behaviors (Adams et al., 2001). They have also been found to report high levels of self-esteem (Nurmi et al., 1997). In sum, a normative style is like a double-edged sword: although normative individuals fare relatively well in terms of personal adjustment (e.g., high levels of commitment and self-esteem), this identity style has a darker side when it comes to interpersonal attitudes and behaviors: Due to their rigid functioning and their rule-obedient attitude, normative individuals are intolerant and fail to develop honest and mature relationships.

Adolescents who use a **diffuse-avoidant** identity style use emotion-focused coping tactics such as distancing, wishful thinking, and tension reduction. They do not use a problem-focused approach (Berzonsky, 1992b; Seaton & Beaumont, 2008), but they have a more situation-specific approach to

problem solving and decision making (Berzonsky & Sullivan, 1992). Diffuse-avoidant adolescents show pre-decisional panic, low cognitive confidence, procrastination, and maladaptive decisional strategies such as avoidance, excuse making, rationalization (Berzonsky & Ferrari, 1996), expecting to fail, limited social support seeking, and a high level of task-irrelevant behavior (Nurmi et al., 1997). So they avoid questioning difficult and personal issues such as religion, which they interpret in a literal way (Duriez et al., 2004, 2008). Adolescents who use a diffuse-avoidant identity style experience social problems, have difficulties establishing and maintaining a social support system, and have immature interpersonal relationships. They have low scores on academic autonomy or educational involvement (Berzonsky & Kuk, 2000). These adolescents have an increased risk for a variety of difficulties, including low self-esteem, high levels of depression and neuroticism, early drug and alcohol use, and conduct and hyperactivity disorder behaviors (Adams et al., 2001; Dollinger, 1995; Jones, Ross, & Hartmann, 1992; Nurmi et al., 1997; Philips & Pittman, 2007; Vleioras & Bosma, 2005; White & Jones, 1996). In sum, the diffuse-avoidant identity style is related to a uniformly maladaptive pattern of outcomes and correlates.

REMAINING QUESTIONS

In the following paragraphs, we will discuss a number of issues that have remained understudied in identity style research.

We will also indicate how this dissertation will address these shortcomings, thereby outlining the basic objectives of this dissertation. First, we investigated the issue of how parenting is related to identity styles. Second, because of psychometric problems with the measurement of the identity styles, we developed a new measure. Third, we investigated whether the motives behind the identity styles allow internal differentiation in the use of identity styles. Fourth, we examined the relation between identity styles and peer interactions, a topic that has received limited attention in empirical research.

The Relation Between Parenting and Identity Styles

Although considerable research has examined relations between identity styles and adolescents' cognitive, interpersonal, and personal functioning, remarkably little research has examined the influence of parenting on identity style development.

Because the consequences of the choices that people make and the way in which these choices are made are closely connected to the reactions of the immediate environment in general and the parents in particular, parents can be assumed to have considerable influence on identity style development (Berzonsky, 1990; Goossens & Phinney, 1996). In this respect, research on the relationship between parent-child relations and identity statuses reveals that diffusion is associated with negative parenting styles, achievement with positive parenting

styles, and foreclosure with both positive parenting styles and a family climate of enmeshment that impedes the separation-individuation process. As far as moratorium is concerned, no clear pattern of relationships was observed (e.g., Adams, Ryan, & Keating, 2000; Meeus, Oosterwegel, & Vollebergh, 2002; Perosa & Perosa, 2002). In sum, some parenting styles seem to be more beneficial for identity development than others.

In spite of the fact that there is a substantial body of research on parent-child relations and identity statuses, there is little research on how parent-child relations influence identity style development. Berzonsky (2004) investigated the relationship between late-adolescents' identity styles and three parenting styles: An authoritarian style (i.e., parents dictate strict rules), a permissive style (i.e., parents dictate no or hardly any rules), and an authoritative style (i.e., parents adjust their rules to their children's needs) (Baumrind, 1971, 1991). In line with the research on identity statuses, Berzonsky (2004) found a significant relationship between the diffuse-avoidant identity style and both an authoritarian and a permissive parental style, between the information-oriented identity style and an authoritative parental style, and between the normative identity style and both an authoritative and an authoritarian parental style (see also Berzonsky, Branje, & Meeus, 2007).

Although extant research was based on a typological approach of parenting, in which parenting dimensions are aggregated to form a parenting style index (e.g., authoritative

parenting), contemporary parenting research focuses on the specific dimensions underneath these parenting styles. Specifically, research emphasizes the importance of three parenting dimensions: (a) support (i.e., the degree to which parents are open to the needs of their children), (b) behavioral control (i.e., the degree to which parents have rules on what is acceptable, supervise their application, and provide appropriate sanctions when rules are violated), and (c) psychological control (i.e., the degree to which parents appeal to internally pressuring feelings, such as guilt, shame, and inferiority, in their children when children do not live up to parental expectations) (Barber & Olson, 1997; Gray & Steinberg, 1999; Silk, Morris, Kanaya, & Steinberg, 2003).

A first research aim of this dissertation is to add to the limited literature on parenting and identity styles by examining associations between specific parenting dimensions and the identity styles. On the basis of the literature and research mentioned above, we expect that each identity style will relate to a specific pattern of perceived parenting dimensions, as described in **Chapter 2**.

Measurement of Identity Styles

A second issue to be addressed in this dissertation is the measurement of identity styles. Until now, the Identity Style Inventory 3 (ISI-3; Berzonsky, 1989) is the most commonly used measure in current research on adolescent identity

development. Although widely used, there are a number of problems with the ISI-3 that limit its interpretability. These problems are detailed in **Chapter 3**.

The second aim of this dissertation is twofold. First, we aim to develop a new version of the instrument (i.e., the ISI-4) in order to address the substantive problems of the ISI-3 and its related reliability problems. Second, we aim to establish the reliability and construct validity of the ISI-4. To examine the cross-national generalization of our reliability and validity findings, the latter issues are examined with both an English (US) and a Dutch version of the new instrument.

As from Chapter 3, the ISI-4 is always used in this dissertation to measure the identity styles.

Internal Differentiation in the Use of Identity Styles

An issue that is understudied in the identity style literature is the internal differentiation among the users of a particular identity style. This issue of internal differentiation can be summarized in questions such as "Are all adolescents using for example the normative style the same?" and "Does the reason why adolescents adopt a particular identity style matter for their well-being?". In this dissertation, motivation is addressed as a factor that might explain variability among those using a particular preferred style. Indeed, in addition to the degree to which adolescents rely on one particular identity style over another in making their decisions, they might have quite

different motives for doing so. For example, some adolescents actively gather information (i.e., they use an information-oriented style) because they think this deliberate approach is important for them to make a well-informed and thoughtful choice (i.e., autonomous motive), whereas others might do so because they would feel guilty and regret it if they would end up making a poorly informed choice (i.e., controlled motive). Similarly, adolescents may engage in a normative style for quite diverse motives. Some normative adolescents might act in accordance with their parental norms out of fear of being criticized or to avoid parental disappointment (i.e., controlled motive), whereas others might genuinely concur with their parents and may choose to adopt their parents' advice (i.e., autonomous motive). The different motives that might regulate the use of an identity style are referred to as motivational regulations and have received considerable attention within Self-Determination Theory (SDT; Deci & Ryan, 2000; Vansteenkiste, Ryan, & Deci, 2008).

The third research aim of this dissertation is to contribute to an integration of the identity and motivation literature, as called for by Flum and Blustein (2000). This aim is fourfold. First, we investigate the bivariate relations between the identity styles and the motives behind their use. Second, we examine whether the autonomous and controlled motives behind the use of a normative and information-oriented identity style would relate differently to outcomes such as commitment, well-being, and

ethnic prejudice, as suggested by SDT. Third, we investigate whether the identity styles or the motives behind the styles were the strongest predictors of the outcomes. That is, we examine whether the originally observed direct relations between the identity styles and these outcomes would change (i.e., weaken or even disappear) if these motives are taken into account. Fourth, we aim to examine associations between perceived autonomy-supportive parenting, identity styles, and the motives behind the use of an identity style. The study that addressed these four research objectives is described in **Chapter 4.**

The Relation Between Identity Styles and Peer Interactions

Although it is generally known that, during adolescence, developments in the personal, cognitive, and social domains are interconnected, relatively few studies have examined associations between variables that play a prominent role in each of these domains such as identity formation, empathy, attachment to friends, and peer interactions. The fourth research aim of this dissertation, which relates to peer interactions, is twofold. First, we will test an integrated model of relations among identity styles, empathy, and interpersonal behaviors (i.e., prosocial behavior, other-oriented helping, self-oriented helping, physical aggression, and relational aggression). Because empathy relates to both identity styles and interpersonal behaviors, as described in **Chapter 5**, we investigate the role of empathy as an intervening variable in this relation. Second, we

will test an integrated model of relations among identity styles, attachment to friends, and intimacy. Because attachment to friends relates to both identity styles and intimacy, as described in **Chapter 6,** we investigate the role of attachment to friends as an intervening variable in this relation.

CONCLUSION

In the following empirical chapters (Chapters 2 to 6), the remaining questions, formulated above, will be addressed. We conclude this dissertation with a chapter on the main findings and some limitations of the dissertation, along with suggestions for future research.

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Chapter 2
Parenting and Identity Styles

Perceived Parenting Dimensions and Identity Styles:
Exploring the Socialization of Adolescents'
Processing of Identity-Relevant Information

ABSTRACT

This study examined the relationships between crucial dimensions of perceived parenting (support, behavioral control, and psychological control) and the three identity styles defined by Berzonsky (1990). Each identity style was hypothesized to relate to a specific pattern of perceived parenting dimensions. Hypotheses were examined in a sample of middle and late adolescents ($N = 674$). An information-oriented style was positively predicted by parental support. Contrary to expectations, however, an information-oriented style was also positively predicted by psychological control. A normative identity style was positively predicted by support and behavioral control. In line with expectations, a diffuse-avoidant identity style was positively predicted by psychological control and negatively by maternal (but not paternal) behavioral control. Findings are discussed in light of the literature on the socialization of identity formation and directions for future research are outlined.

INTRODUCTION

The development of a stable and coherent identity is considered a central developmental task during adolescence (Erikson, 1968). It was already acknowledged by Erikson, though, that not all adolescents are equally successful in negotiating this task. Whereas some adolescents arrive at a clear and integrated identity, others end up in a state of identity confusion. To account for such differences, several frameworks identified important individual differences in adolescents' approach to identity formation in general (e.g., Marcia, 1980) and in their style of identity exploration in particular (e.g., Berzonsky, 1990). The model of Berzonsky (1990), which distinguishes three styles of exploring and processing identity-relevant information, takes a central position in current identity formation research. Although research documented the validity of a distinction between Berzonsky's identity styles, the contextual origins of these styles received little attention. The present study addresses the possible role of socialization in the identity exploration process by examining associations between three core parenting style dimensions and Berzonsky's identity styles.

The Identity Style Model

Marcia's (1966) identity status paradigm has long been the prevailing model in identity research. Marcia defined individual

differences in identity formation along the dimensions of exploration and commitment. Exploration refers to the questioning and weighing of various alternatives or possible selves. Commitment pertains to decision making in identity-relevant domains. Within the identity status paradigm, self-reported commitment and exploration are used to define four identity statuses: Achievement (high commitment/high exploration), moratorium (low commitment/high exploration), foreclosure (high commitment/low exploration) and diffusion (low commitment/low exploration).

Although most researchers considered identity statuses as personality outcomes, they can also be conceptualized in terms of a process model. The four outcomes classified by Marcia may represent or at least be associated with different styles of decision making and problem solving (Berzonsky, 1990). Elaborating on this, Berzonsky (1990) developed a process-oriented and dynamic model of identity formation. Specifically, Berzonsky (1990) focuses on the exploration process and identifies differences in how individuals seek, process, and use identity-relevant information. The model distinguishes three styles of exploration that are thought to represent the socio-cognitive underpinnings of Marcia's (1966) model: The information-oriented, the normative, and the diffuse-avoidant style.

Information-oriented individuals (i.e., achievers and moratoriums) deal with identity issues by actively seeking out

and evaluating relevant information before making commitments. When confronted with information that is dissonant with their self-conceptions, they will revise these self-conceptions. *Normative* individuals (i.e., foreclosures) rely on the norms and expectations of significant others (e.g., parents or authority figures) when confronted with identity-relevant issues. They rigidly adhere to their existing identity structure, into which they assimilate all identity-relevant information. *Diffuse-avoidant* individuals (i.e., diffusions) avoid personal issues and procrastinate decisions until situational demands dictate their behavior, resulting in a fragmented identity structure (Berzonsky, 1990).

Abundant research documented the validity of distinguishing among these three identity styles. It has been shown that each style is characterized by a specific pattern of psychosocial and social-cognitive correlates and consequences (Soenens, Duriez, & Goossens, 2005). However, little research devoted attention to potential determinants of these styles. A number of studies explored the idea that individual differences in identity styles are at least partly rooted in underlying differences in personality (Dollinger, 1995; Duriez, Soenens, & Beyers, 2004). Apart from this, the family context is also considered to contribute to the formation of identity in general and to the development of one's identity style in particular (Grotevant, 1987).

Parenting and Identity Development

From theoretical perspectives such as family systems theory (Grotevant & Cooper, 1985; Perosa, Perosa, & Tam, 1996) and attachment theory (Bowlby, 1969), the quality of parents' rearing style is thought to contribute to differences in identity exploration. A central idea in attachment theory, for instance, is that high-quality parenting contributes to a positive sense of self and others that provides a secure base for exploration (Allen & Land, 1999; Benson, Harris, & Rogers, 1992).

The notion that nurturant parents promote high-quality exploration and subsequent commitment received support in identity status research (e.g., Adams, Dyk, & Bennion, 1990; Sartor & Youniss, 2002). Less research has been conducted, however, on the relation between parenting and identity styles. Adolescents with an information-oriented identity style were found to perceive their parents as authoritative (Berzonsky, 2004) and as engaging in open communication (Berzonsky, Branje, & Meeus, 2007). In line with expectations, Berzonsky (2004) found a normative identity style to relate to perceptions of authoritarian parenting and Adams, Berzonsky, and Keating (2006) found that these adolescents perceive their family as lacking expressiveness (i.e., lack of openness to ideas and feelings). Unexpectedly, a normative style also related positively to authoritativeness (Berzonsky, 2004) and cohesive, trusting family relations (Adams et al., 2006; Berzonsky et al., 2007). Finally, a diffuse-avoidant style was found to relate to

authoritarianism and permissiveness (Berzonsky, 2004) and lack of expressiveness in family communications (Adams et al., 2006). Although this limited literature provides some insight in the parenting environment associated with each identity style, it fails to relate the identity styles to the crucial dimensions of parenting style. In line with recent developments in the socialization literature (Barber, Stolz, & Olsen, 2005), this study examined three key dimensions of parenting: Support, behavioral control, and psychological control.

A Dimensional Approach to Parenting

Much parenting research followed a typological approach, in which parenting dimensions are aggregated to form a parenting style index (e.g., authoritative parenting). The typological approach builds on the assumption that it is necessary to consider the interactive effects of different dimensions of parental behavior (Maccoby & Martin, 1983). The most comprehensive study on parenting and identity styles to date (Berzonsky, 2004) also adopted this typological approach.

An important drawback of this approach is that the contribution of each individual parenting dimension cannot be isolated (Barber et al., 2005). Therefore, the present study examines relations between the identity styles and the three parenting dimensions that are considered to represent the building blocks of parenting (Barber et al., 2005). *Support* refers to the degree to which adolescents experience their parents as

warm, involved, and responsive to their feelings in times of distress. Support is viewed as essential in adaptive development in general and in identity development in particular (Grotevant, 1987). Specifically, supportive parenting is thought to foster a thorough exploration of identity-relevant information. *Behavioral control* involves the provision of sufficient regulation of children's behavior, for instance, by communicating clear expectations for behavior and monitoring this behavior. Insufficient behavioral control deprives adolescents of adequate guidance and may leave them with a chaotic and overwhelming number of identity-relevant options. Accordingly, lack of behavioral control may forestall high-quality identity exploration. *Psychological control* is defined as characteristic of parents who pressure their children through manipulative and intrusive behaviors such as guilt-induction, shaming, and conditional approval (Barber, 1996). Psychological control is thought to frustrate the need for autonomy, thereby inhibiting identity formation. Consistent with this notion, Luyckx, Soenens, Vansteenkiste, Goossens, and Berzonsky (2007) demonstrated that psychological control relates to lack of commitment-making abilities as well as to superficial or broad exploration.

The Present Study

This study aims to relate Barber et al.'s (2005) framework of parenting dimensions to Berzonsky's (1990) identity styles. On

the basis of the extant literature, each identity style was hypothesized to relate to a specific pattern of perceived parenting dimensions.

Hypothesis 1. The flexible and deliberate exploration of information-oriented adolescents was thought to take root in a supportive, well-structured and non-intrusive parenting environment. Therefore, an information-oriented identity style was hypothesized to relate positively to perceived support and behavioral control and negatively to perceived psychological control.

Hypothesis 2. A normative identity style, involving compliance to parental standards and a closed-minded and rigid attitude to identity-relevant information, was thought to develop in a highly structured and involved yet pressuring parenting environment. Thus, this style was expected to relate positively to perceived support and behavioral control, and psychological control.

Hypothesis 3. The avoidant, unstructured, and insecure approach to identity exploration that characterizes diffuse-avoidant adolescents was thought to reflect a non-supportive, chaotic, and pressuring parenting environment. Therefore, a diffuse-avoidant style was expected to relate to low perceived support and behavioral control, and to high perceived psychological control.

Hypotheses were examined in a sample of middle to late adolescents who rated the parenting dimensions for their mother

and father separately, allowing us to assess whether the findings replicate across parental gender. In testing the main hypotheses, we also controlled for the possibly confounding effects of adolescent age and gender and, more importantly, we examined whether the associations between parenting and the identity styles are invariant across adolescent age and gender.

METHOD

Participants and Procedure [1]

   The sample consisted of 674 participants (50% male). The perfectly balanced gender distribution was due to the sampling procedure. Dutch-speaking Belgian educational science students

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[1] Our sample consisted of college students who completed a questionnaire during a first phase of data collection ($n = 168$) and middle and late adolescents who were invited by the college students to participate in a second phase of data collection ($n = 506$). One may wonder whether the relatively uncontrolled nature of this second phase led to a different pattern of results. To examine this, we compared the correlation matrices of both phases by means of a single multivariate chi-square test. Specifically, two correlation matrices were compared between the phases of data collection, one containing the paternal parenting dimensions and the identity styles, and one containing the maternal parenting dimensions and the identity styles. No overall differences appeared neither for the maternal ratings ($\Delta\chi^2$ (15) = 22.04, $p > .05$) nor for the paternal ratings ($\Delta\chi^2$ (15) = 23.71, $p > .05$). Similarly, we examined whether the correlations among the study variables differ between late adolescents (i.e., college students, $n = 336$) and middle adolescents (i.e., high school students, $n = 338$). No significant differences were found for the maternal ratings ($\Delta\chi^2$ (15) = 14.05, $p > .05$) or for the paternal ratings ($\Delta\chi^2$ (15) = 18.62, $p > .05$). Finally, we examined whether the correlation matrices differed for males ($n = 337$) and females ($n = 337$). Although we did not find a difference for the paternal ratings ($\Delta\chi^2$ (15) = 18.13, $p > .05$), a difference emerged for the maternal ratings ($\Delta\chi^2$ (15) = 31.52, $p < .05$). Follow-up analyses showed that this was due to two correlations differing significantly between males and females: The correlation between maternal psychological control and a normative style (which was slightly positive in males, $r = .11$, $p = .06$ and slightly negative in females, $r = -.11$, $p = .04$) and the correlation between maternal support and psychological control (which was less pronounced in males, $r = -.34$, $p < .001$ than in females, $r = -.50$, $p < .001$). Together, these analyses suggest that the pattern of relations between the study variables is generally consistent across (a) method of data collection, (b) age, and (c) gender. Given these findings, it was deemed legitimate to examine our hypotheses in the sample as a whole rather than to perform the analyses on its sub-samples.

($N = 168$) participated in the context of a psychology course. First, they were asked to complete a questionnaire themselves. Second, they were asked to collect data (a) from one fellow-college student of the opposite gender and (b) from two middle adolescents (one male and one female) between 15 to 18 years of age following the academic track in high school. Because students received course credit, response rates were high ($>$ 98%). The resulting sample consisted of adolescents ranging in age between 15 and 22 years (with a mean of 17.9 years). Of the participants, 87.5% came from intact families, 10% had divorced parents, and 2% of the adolescents came from a family in which one parent had deceased. As this study deals with parental influence, it is important to note that all middle adolescents and most college students were still living with their parents. Most college students in Belgium (i.e., 95%) either still live with their parents (i.e., commuters) or return home for the weekend (Luyckx et al., 2007). Hence, with few exceptions, participants had frequent contacts with their parents. Participation was voluntary and confidentiality was guaranteed.

Measures

Identity styles. Participants completed a Dutch version of the Identity Style Inventory (ISI-3; Berzonsky, 1992). The ISI-3 was translated into Dutch using a committee approach. This approach involved that three experienced researchers translated the questionnaire. Differences in translations were discussed in

committee and disagreements were resolved through consensus. Next, a translation – back translation procedure was used. Items were translated into English and an independent person matched the original and the back-translated items. Correct matching was achieved for all items. Cronbach's alpha for the information-oriented scale (11 items, e.g., "When making important decisions, I like to have as much information as possible") was .69. Cronbach's alpha for the normative scale (9 items, e.g., "I prefer to deal with situations in which I can rely on social norms and standards") was .52. Cronbach's alpha for the diffuse-avoidant scale (10 items, e.g., "When I have to make a decision, I try to wait as long as possible in order to see what will happen") was .68. Although reliability was moderate for the information-oriented and the diffuse-avoidant scale and low for the normative style scale, this is in line with previous psychometric findings (Berzonsky, 1992; Soenens, Duriez, et al., 2005).

Parenting dimensions. Participants completed a brief Dutch version of the Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965) that has been widely used and validated in previous research (e.g., Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005). Items were rated for mothers and fathers separately. Cronbach's alphas for support (7 items, e.g., "My mother/father makes me feel better after I discussed my worries with him/her") were .89 and .90 for mothers and fathers respectively. Cronbach's alpha for

behavioral control (7 items, e.g., "My mother/father allows me to do anything I want" – reverse coded) was .82 for mothers and fathers. Cronbach's alphas for psychological control (7 items, e.g., "My mother/father is less friendly to me if I don't see things like he/she does") were .82 and .80 for mothers and fathers respectively. This adapted and translated version of the CRPBI has been widely used and validated in previous research (e.g., Soenens, Vansteenkiste, et al., 2005).

RESULTS

Descriptive Statistics and Correlations

Descriptives (i.e., means and standard deviations) and correlations among the study variables can be found in Table 1. The information-oriented style related positively to maternal perceived support and negatively to behavioral control. The normative style related positively to perceived maternal and paternal support and to perceived maternal behavioral control. Across parental gender, the diffuse-avoidant style related negatively to perceived support and positively to perceived psychological control.

Table 1

Means, Standard Deviations, and Correlations Among the Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Information-oriented	3.04	.52								
2. Normative	2.94	.43	.04							
3. Diffuse-avoidant	2.71	.53	-.38***	-.02						
4. Maternal Support	3.87	.75	.16***	.19***	-.12**					
5. Maternal Behavioral control	3.28	.76	-.11**	.11**	.03	-.13***				
6. Maternal Psychological control	2.34	.76	-.01	-.01	.16***	-.43***	.34***			
7. Paternal Support	3.21	.91	.04	.23***	-.10*	.33***	.10**	-.18***		
8. Paternal Behavioral control	3.23	.81	-.06	.00	.08*	.02	.51***	.15***	-.09*	
9. Paternal Psychological control	2.29	.76	.04	-.07	.19***	-.13***	.06	.42***	-.53***	.37***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Primary Analyses: Regression Analysis

Hierarchical multiple regression analyses were performed (a) to control for background variable effects, (b) to control for shared variance between the identity styles, (c) to examine the relative contribution of the parenting dimensions in the prediction of identity styles, and (d) to examine interactions between background variables and parenting dimensions. The background variables (gender and age) and the identity styles not being regressed were entered as control variables in Step 1. The perceived parenting dimensions were entered in Step 2. Interactions between perceived parenting dimensions and age and gender, respectively, were entered in Step 3. Analyses were conducted for maternal and paternal ratings of parenting separately. Results can be found in Table 2 (mothers) and Table 3 (fathers).

Table 2

Hierarchical Regression of Identity Styles on Maternal Ratings of Parenting

Predictor	Information-oriented			Normative			Diffuse-avoidant		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	-.11**	-.14***	-.14***	-.01	-.04	-.04	-.18***	-.18***	-.17***
Age	.23***	.22***	.21***	-.05	.00	.00	-.15***	-.17***	-.18***
Information-oriented				.07	.03	.04	-.34***	-.35***	-.35***
Normative	.06	.03	.03				-.00	.00	.00
Diffuse-avoidant	-.33***	-.34***	-.34***	-.01	.00	.00			
Support (S)		.19***	.18***		.22***	.22***		.03	.03
Behavioral control (BC)		-.05	-.04		.12**	.12**		-.10***	-.09**
Psychological control (PC)		.16***	.15***		.04	.05		.19***	.20***
Age x S			.01			.02			-.02
Age x BC			.03			-.05			-.05
Age x PC			-.06			.08			.01
Gender x S			-.06			-.03			-.01
Gender x BC			.09*			-.04			.10**
Gender x PC			-.05			-.07			-.10*
Adjusted R^2		.24***	.24***		.04***	.05***		.21***	.22***
ΔR^2	.21***	.03***	.01	.00	.05***	.01	.18***	.03***	.02*

$* p < .05.$ $** p < .01.$ $*** p < .001.$

Table 3

Hierarchical Regression of Identity Styles on Paternal Ratings of Parenting

Predictor	Information-oriented			Normative			Diffuse-avoidant		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	-.11**	-.11**	-.11**	-.01	-.02	-.02	-.19***	-.18***	-.17***
Age	.22***	.21***	.20***	-.07	-.05	-.04	-.15***	-.18***	-.19***
Information-oriented				.07	.05	.06	-.34***	-.36***	-.36***
Normative	.06	.04	.05				-.02	-.01	.00
Diffuse-avoidant	-.34***	-.36***	-.37***	-.02	-.01	.00			
Support (S)		.10*	.09*		.26***	.27***		.05	.04
Behavioral control (BC)		-.01	.00		.00	.00		-.07	-.07
Psychological control (PC)		.16***	.17***		.08	.07		.25***	.24***
Age x S			-.01			.03			-.04
Age x BC			-.06			-.01			-.10**
Age x PC			-.06			.07			.01
Gender x S			.01			-.06			-.02
Gender x BC			.01			-.07			.07
Gender x PC			-.07			.05			-.11*
Adjusted R²		.22***	.22***		.05***	.05***		.23***	.24***
ΔR²	.20***	.02**	.01	.01	.05***	.01	.19***	.04***	.02**

* p < .05. ** p < .01. *** p < .001.

Hypothesis 1: Information-oriented identity style. Tables 2 and 3 show that the variables in Step 1 significantly predicted the information-oriented style for both perceived parenting of mothers ($R^2 = .21$, $F(2, 644) = 43.04$, $p < .001$) and fathers ($R^2 = .21$, $F(2, 630) = 43.85$, $p < .001$). This was due to significant effects of age, gender, and the diffuse-avoidant style. Older adolescents and boys tend to use the information-oriented style more than younger adolescents and girls. As in previous research, the diffuse-avoidant style was negatively related to the information-oriented style. The perceived parenting dimensions of mothers ($\Delta R^2 = .03$, $F(3, 641) = 9.39$, $p < .01$) and fathers ($\Delta R^2 = .02$, $F(3, 627) = 4.69$, $p < .01$), entered in Step 2, were found to add to the prediction. Some of the expectations about the information-oriented identity style were confirmed and others were not. In line with expectations, the information-oriented style was positively predicted by maternal and paternal perceived support. Contrary to expectations, perceived behavioral control did not add significantly to the prediction of an information style. Also contrary to expectations, the information-oriented style was positively predicted by psychological control. Interactions between the perceived parenting dimensions and the background variables did not add to the prediction.

Hypothesis 2: Normative identity style. The variables in Step 1 did not explain any variance in the prediction of the normative style. The perceived parenting dimensions of mothers ($\Delta R^2 =$

.05, $F(3, 641) = 11.35$, $p < .001$) and fathers ($\Delta R^2 = .05$, $F(3, 627) = 11.99$, $p < .001$) added to the prediction. Again, only partial support was obtained for our hypotheses. As expected, support positively predicted the normative style and perceived behavioral control also positively predicted the normative style, although this effect occurred for maternal ratings only. Contrary to expectations, psychological control did not significantly predict the normative style. Interactions between the parenting dimensions and the background variables did not add to the prediction.

Hypothesis 3: Diffuse-avoidant identity style. The variables in Step 1 significantly predicted the diffuse-avoidant style in the maternal ($R^2 = .18$, $F(2, 644) = 41.61$, $p < .001$) and paternal model ($R^2 = .19$, $F(2, 630) = 42.50$, $p < .001$). This was due to significant effects of gender, age and the information-oriented style. Boys and younger adolescents scored higher on the diffuse-avoidant style than girls and older adolescents. The perceived parenting dimensions of mothers ($\Delta R^2 = .03$, $F(3, 641) = 8.05$, $p < .001$) and fathers ($\Delta R^2 = .04$, $F(3, 627) = 11.57$, $p < .001$) added to the prediction. Perceived support did not predict the diffuse-avoidant style. As expected, perceived psychological control positively predicted the diffuse-avoidant style, and perceived behavioral control negatively predicted the diffuse-avoidant style, although this effect occurred in the maternal ratings only. Finally, the diffuse-avoidant style was significantly predicted by the Step 3 interactions both in the

maternal ($\Delta R^2 = .02$, $F(6, 635) = 2.18$, $p < .05$) and paternal model ($\Delta R^2 = .02$, $F(6, 621) = 2.64$, $p < .05$). In the maternal model, significant interactions were found between gender and behavioral control and between gender and psychological control. Behavioral control negatively predicted the diffuse-avoidant style among males ($\beta = -.17$, $p < .01$) but not among females ($\beta = -.02$, $p > .05$). The diffuse-avoidant style was positively predicted by maternal psychological control in both genders, but the association was more pronounced in males ($\beta = .26$, $p < .001$) than in females ($\beta = .12$, $p < .05$). In the paternal model, significant interactions were found between age and behavioral control and between gender and psychological control. When dividing the sample into three age groups (< 16, 17 to 20, > 20), paternal behavioral control negatively predicted the diffuse-avoidant style among late adolescents (> 20) only (β's were -.15, ns, .00, ns, and -.31, p $< .05$, respectively).

DISCUSSION

The present study examined relationships between crucial dimensions of parenting style and the identity styles defined by Berzonsky (1990). In general, each identity style was found to relate to a specific pattern of perceived parenting dimensions.

Parenting and Identity Styles

The *information-oriented* identity style was positively predicted by perceived parental support. This effect, which was

replicated across parental gender, is in line with our hypothesis that nurturant parenting would foster an open and flexible exploration of identity-relevant information. Specifically, this finding confirms the idea derived from attachment theory that high-quality parenting contributes to children's sense of self and others which, in turn, provides them with the self-confidence that is necessary to explore the world (e.g., Benson et al., 1992). Unexpectedly, however, an information-oriented style was also positively predicted by perceived parental psychological control, suggesting that psychologically controlling parenting fosters an active search for identity alternatives in at least some adolescents. It seems unlikely, however, that the type of identity exploration that is driven by intrusive parental pressure will ultimately result in a coherent and stable set of commitments. Additional research on the link between psychological control and the information-oriented style is needed.

In line with expectations, the *normative* identity style was positively predicted by perceived supportive parenting as well as by perceived (maternal) behavioral control. Contrary to expectations, however, perceived psychological control did not add to the prediction. Hence, although we anticipated that normative adolescents would experience their rearing as involved and pressuring, parents are described in positive terms only. Past research with the identity statuses has shown that foreclosed adolescents report high levels of support and involvement (e.g., Papini, Micka, & Barnett, 1989) as well as

impairments related to lack of interpersonal boundaries and independence (e.g., enmeshment; Perosa et al., 1996). Similarly, Berzonsky (2004) found both authoritative and authoritarian parenting to predict a normative identity style, indicating that parents of normative adolescents are perceived as supportive yet somewhat overprotective. Our findings neither confirm these findings nor the idea that a combination of support and manipulative control would foster the rule-obedient, rigid, and conformist attitude characteristic of normative oriented adolescents.

In line with expectations, the *diffuse-avoidant* identity style was predicted by a maladaptive pattern of perceived parenting. In particular, across parental gender, positive associations were found between perceived psychological control and the diffuse-avoidant identity style. These associations held across adolescent gender, although they were somewhat more pronounced in males. The positive association between psychological control and the diffuse-avoidant style is consistent with past research in which adolescents in the diffusion status and adolescents with a diffuse-avoidant identity style were shown to report negative parenting styles (e.g., authoritarianism; Berzonsky, 2004) as well as with research demonstrating relations between psychological control and impaired commitment-making (e.g., Luyckx et al., 2007). As psychologically controlling parents project their standards and aspirations onto their children and manipulate their children to

comply with these standards, children may lose touch with their own feelings and aspirations. When facing important choices, these children are likely to experience severe doubts about which path to choose as well as concerns about choosing the wrong path (Soenens, Vansteenkiste, et al., 2005). Possibly as a result of this, children may avoid and postpone making commitments until situational demands dictate their behavior (Berzonsky, 1990).

Consistent with our hypotheses and with Berzonsky's (2004) finding that permissiveness relates positively to diffuse-avoidance, perceived behavioral control was also (negatively) related to the diffuse-avoidant identity style. This association was most pronounced in the maternal ratings. In the paternal ratings, the link between behavioral control and diffuse-avoidance was qualified by an interaction with age, with paternal behavioral control predicting less diffuse-avoidance in older adolescents only. A lack of behavioral control may contribute to an ill-structured perspective on one's personal development. As these adolescents may experience the number of possibilities and choices in life as overwhelming, they may lose their hold on the exploration process and start procrastinating decisions. As the interaction with age in the paternal ratings suggests, appropriate levels of behavioral control may be particularly important during later stages of identity development, when the establishment of stable and

personally endorsed commitments becomes a normative developmental task (Erikson, 1968).

Factors Accounting for the Mixed Pattern of Findings

As illustrated above, we obtained evidence for both expected and unanticipated relations. In our view, a number of factors, pertaining to both measurement issues (e.g., reliability) and theoretical issues (e.g., the role of moderating factors) may account for this mixed pattern of findings. Each of these factors provides directions for future research.

First, the amount of explained variance in this study is low to modest. Because modest effect sizes are relatively common in research on identity styles (e.g., Adams et al., 2006), it seems likely that other factors (e.g., personality) besides parenting also contribute to identity style development. An interesting avenue for future research could be to examine the combined and interactive influence of parenting and personality in the prediction of identity styles.

Second, the relatively low effect sizes may be partly due to the quality of the measures used in this study. Specifically, in line with previous research, the reliability estimates of the ISI-3 were quite modest. This may lead to an underestimation of some relations, particularly with the normative style scale. It will be important for future research to develop a more internally consistent measure of the identity styles and to replicate the current study with that measure.

Third, constructs were assessed through adolescent self-report only. Although it is appropriate to gather information about subjective processes such as identity development from the adolescents themselves, the use of a single informant may have caused problems of shared method variance and self-presentational bias. This could be particularly important with respect to the normative style. Adolescents with a normative style may be more prone to show bias in parenting reports (Berzonsky, 2004) and underreport maladaptive parenting qualities. It is important to replicate our findings with multi-informant parenting assessments. Related to this, the content of our measures may also explain some of the unexpected findings. Our measure of psychological control, for instance, taps rather overt types of parental manipulation and intrusiveness. Due to a possible reporter bias of normative oriented individuals, future research may benefit from implicit measures of parental control to uncover the socialization dynamics associated with the identity styles.

Fourth, the present study examined main effects of parenting on identity styles only without considering the role of possible moderating variables. Moderators that were not observed in this study could help explain some of the unexpected findings. The association between perceived psychological control and the information-oriented style, for instance, may be moderated by commitment, with psychological control only relating to an active type of exploration that does not result in commitments.

The latter interpretation is consistent with research showing that adolescents who explore without making commitments (i.e., moratorium) perceive their parents as intrusive (e.g., Perosa et al., 1996). Further, to the extent that adolescents actively explore identity-relevant information to meet parental pressures, they may engage in a ruminative, anxious, and indecisive rather than in reflective and self-endorsed exploration (Baumeister, Shapiro, & Tice, 1995; Luyckx et al., 2007). Similarly, the unexpected lack of association between perceived psychological control and the normative style may be due to the fact that some normative oriented adolescents really identify with their parents' norms, whereas others feel pressured to follow these norms. It seems likely that the former normative adolescents experience their parents as more supportive and less controlling than the latter normative adolescents. Together, then, it will be important to identify theoretically relevant moderators that allow to distinguish subgroups within the identity styles. Such an approach may allow for a more detailed investigation of the socialization processes involved in the identity styles.

Limitations

There are a number of limitations to the design of this study. First, our sample comprised white and highly educated adolescents only. Therefore, we cannot state with certainty that our findings generalize to other cultures or to populations with a more diverse educational background. Second, due to its cross-

sectional nature, our study cannot clarify the directions of effects in association between parenting dimensions and identity styles. The unexpected relation between psychological control and the information-oriented style, for instance, could represent a child rather than a parent effect. The long and wide search for identity alternatives may create worry or even anxiety in parents because it does not seem to result in stable and well-defined commitments. Driven by worry and anxiety, parents may increase their psychological control in an attempt to pressure their children to make commitments. Similarly, the undecided behavior of diffuse-avoidant adolescents may provoke negative feelings in parents so that they respond in a more controlling and less constructive or structuring fashion to their children's behavior. The positive relation between perceived support and the normative identity style may also represent a child effect. Normative adolescents tend to behave in line with parental expectations, which may elicit parental approval and support. Hence, longitudinal research studying the socialization of identity styles from a more dynamic perspective might be fruitful.

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Chapter 3

Measurement of Identity Styles

The Identity Style Inventory – Version 4:
A Cross-National Study in Scale Development
and Validation

Smits, I., Soenens, B., Berzonsky, M. D., Luyckx, K., Goossens, L., Kunnen, S., & Bosma, H. *Unpublished manuscript.*

ABSTRACT

This article reports on the construction and psychometric evaluation of a revised measure of identity styles, that is, the Identity Style Inventory–Version 4 (ISI-4). To increase the interpretability of the scores obtained and to remedy some of the shortcomings of the previous measure, items were all formulated in the present tense and referred to identity-processing in general. Through both exploratory and confirmatory factor analyses, a 24-item version was developed, which clearly measured three different identity styles (i.e., information-oriented, normative, and diffuse-avoidant), as intended. Psychometric properties of the instrument were examined in a cross-national study involving three countries (i.e., Belgium, the Netherlands, and the US) and 6 samples. Test-retest (1 week) and stability estimates (4 months) were satisfactory and correlations in the expected direction with related constructs indicated that the ISI-4 is a valid instrument. Limitations of the study are discussed and suggestions for future research are offered.

INTRODUCTION

The aim of this study is to describe the development of the Identity Style Inventory-Version 4 (ISI-4) and to demonstrate its psychometric properties from a cross-national perspective. The ISI-4 taps into three styles of processing identity-relevant information as conceptualized within Berzonsky's (1989, 1990) identity style theory. Until now, the Identity Style Inventory 3 (ISI-3; Berzonsky, 1989) is the most commonly used measure in current research on adolescent identity development. However, this measure has both psychometric and substantive problems. The ISI-4 is designed to offer a solution for these problems.

Berzonsky's Conceptualization of Identity Styles

According to Erikson's (1968) life-span theory of psychosocial development, adolescents face the challenge to form a clear, coherent, and stable sense of identity. A stable identity can be used as a frame of reference to interpret personal experiences and to give meaning, purpose, and direction to life. In the ideal case, adolescents would develop the ability to be responsible for their own decisions and life course during the identity formation process. Marcia's (1966) identity status model was one of the first elaborations of Erikson's theory on identity formation for empirical research. In this model, Marcia focused mainly on the identity dimensions of exploration and commitment. Exploration represents the active search for and

consideration of possible alternative identity elements. During this exploration process, adolescents experiment with different social roles, plans, and ideologies. Commitment involves deciding on a specific set of goals, values, and beliefs that one will adhere to. Based on the presence or absence of the two dimensions exploration and commitment, Marcia defined four identity statuses. These identity statuses, representing a particular mode of addressing identity issues and life choices, are achievement (high on exploration and high on commitment), moratorium (high on exploration and low on commitment), foreclosure (low on exploration and high on commitment), and diffusion (low on exploration and low on commitment).

Recently, scholars have begun to focus more on the mechanisms through which identity develops. According to these authors, Marcia's identity status model focused too exclusively on the quantity or presence of exploration. Instead, they emphasized the quality of the identity exploration process (e.g., Luyckx, Goossens, Soenens, & Beyers, 2006; Schwartz, 2001).

The model of Berzonsky (1989, 1990) is one of the most elaborate and prominent models focusing on identity exploration in the literature on adolescent development. The exploration process is assumed to involve at least three levels. First, the most basic units are the actual behavioral patterns and cognitive responses individuals perform as they deal with their lives. Second, the social-cognitive strategies are integrated collections

of behaviors and cognitive responses. Third, the identity style refers to the strategy that an individual prefers to use or characteristically employs. Specifically, Berzonsky's model focused on the different information-processing strategies that individuals use to explore identity-relevant issues. He has proposed three different socio-cognitive identity processing styles that reflect three qualitatively different ways of approaching the process of exploration: the information-oriented identity style, the normative identity style, and the diffuse-avoidant identity style. Individuals using an information-oriented identity style deal with identity issues by actively seeking out, processing, and utilizing identity-relevant information in order to make well-informed choices. Individuals using a normative identity style conform to and rely on normative expectations and prescriptions of significant others and reference groups. Finally, individuals using a diffuse-avoidant identity style procrastinate and delay decisions about their identity until situational demands force a choice onto them.

Measurement of Identity Styles

Berzonsky's (1990) model assumes that there are relatively stable individual differences in the extent to which adolescents engage in a particular identity style. Accordingly, Berzonsky (1989, 1992a) developed the Identity Style Inventory (ISI) to assess the social-cognitive strategies that individuals reportedly use or prefer to use. The ISI is a 40-item self-rating inventory

containing three primary subscales, that is, the three identity styles. A fourth scale that measures commitment is embedded in the instrument. Consistent with Marcia's (1966) model, the ISI commitment scale taps into the strength of values and goals. Not all empirical studies on identity styles actually administer the commitment scale. However, this scale may play a role in moderating and/or mediating relationships between identity styles and criterion variables (Berzonsky, 2003).

The latest version of the instrument, the ISI-3, has become one of the most widely used questionnaires in research on identity and adolescent development, and has been translated and administered in many countries. In one of the few studies examining the factor structure of the ISI-3, White, Wampler, and Winn (1996) found that, with few exceptions, all items loaded on the appropriate, theoretically predicted factors. Moreover, studies have typically obtained low to modest correlations between scores for the three identity styles, providing further evidence that the identity styles are distinct constructs (e.g., Berzonsky, 1989, 1992b, 1994). In addition, it has been demonstrated that the ISI-3 has adequate test-retest reliability and stability, although this psychometric feature has only been examined in the United States. Specifically, test-retest reliabilities over a 2-week interval ($N = 94$) ranged between .83 and .87 and the stability over a 2-month interval ($N = 75$) ranged between .71 and .75 (Berzonsky, 2003).

In addition, studies have provided evidence for the construct validity of the ISI-3. The identity styles have been shown to correlate in theoretically expected ways with measures of identity statuses (e.g., Berzonsky, 1989). Specifically, adolescents in the moratorium and achievement status predominantly used an information-oriented identity style, people in the foreclosure status predominantly used a normative identity style, and people in the diffusion status predominantly used a diffuse-avoidant identity style (Berman, Schwartz, Kurtines, & Berman, 2001; Berzonsky & Niemeyer, 1994; Schwartz, Mullis, Waterman, & Dunham, 2000).

Although widely used, there are a number of problems with the ISI-3 that limits its interpretability. First, whereas some items of the ISI-3 refer to the use of an identity style in the past, others refer to the use of an identity style in the present. Due to this mixture of retrospective items and items tapping into one's current endorsement of the identity styles, the identity style scores provided by the ISI-3 cannot be interpreted unequivocally as representing one's currently used identity style. Second, whereas some items of the ISI-3 refer to specific identity domains (e.g., ideology and relationships), others refer to identity exploration in general (i.e., across domains). Because there is no consistency in the domains mentioned in the items, the identity style scores cannot be interpreted easily. Third, some items of the normative subscale of the ISI-3 refer to commitment, which is a structural aspect of identity, instead of

to the process of evaluating and dealing with identity-relevant information as such. Therefore, items that refer to a commitment cannot be considered as relevant to the assessment of the normative style.

Possibly as a consequence of these substantive problems, the ISI-3 scales have demonstrated modest internal consistency. According to Nunnally (1967) and DeVellis (1991), the minimum norm for Cronbach's alpha (1951) in research is .60 and even this lower limit for reliability has not always been reached in previous research. In particular, researchers have noted problems with the internal consistency of the ISI-3 scales (i.e., alphas below .60), especially for the normative scale. These problems seem to predominate in translated versions of the ISI-3, for instance into Dutch (Duriez, Soenens, & Beyers, 2004; Duriez & Soenens, 2006; Duriez, Smits, & Goossens, 2008; Smits, Soenens, Luyckx, Duriez, Berzonsky, & Goossens, 2008).

The Present Study

This study has two aims. First, we aimed to develop the ISI-4 in order to address the substantive problems of the ISI-3 and its related reliability problems. Second, we aimed to establish the reliability and construct validity of the ISI-4. To examine the cross-national generalization of our reliability and validity findings, the latter issues were examined with both an English (US) and a Dutch version of the new instrument.

To address these aims, four studies will be presented. Study 1 describes the development of the ISI-4 and examines its factor structure, internal consistency, and subscale intercorrelations. In Study 2, we examined the test-retest reliability and stability of the ISI-4 scores. In Study 3, we examined the associations of the ISI-4 with alternative identity style measures. In Study 4, we further examined the construct validity of the ISI-4. Table 1 gives an overview of the 6 samples used in these studies. The samples will be discussed in greater detail in the Method section of the relevant studies. Throughout the paper, the benchmarks suggested by Floyd et al. (2006) will be used to interpret the correlations obtained, drawing from the following labels: very weak (.0 to .2), weak (.2 to .4), moderate (.4 to .7), high (.7 to .9), and very strong (> .9).

Table 1

Overview of Samples

Sample	Nation	Design	N	Study
1	United States	Cross-sectional	174	1 & 4
2	The Netherlands	Cross-sectional	181	1
3	Belgium	Longitudinal wave 1 (4-month interval)	368	1, 2 & 4
4	Belgium	Longitudinal wave 2 (4-month interval)	214	2 & 3
5	Belgium	Longitudinal (1-week interval)	251	2
6	Belgium	Cross-sectional	81	3

STUDY 1: CROSS-NATIONAL SCALE DEVELOPMENT

To address the substantive problems of the ISI-3 discussed before, we developed a new version of the ISI, which we will refer to as the ISI-4. The process of formulating and rewriting items for the ISI-4 was guided by three main principles. First, all items were formulated in the present tense (e.g., 'I've spent a great deal of time thinking seriously about what I should do with my life' was changed into 'I intentionally think about what I want to do with my life'). Second, items were reformulated so that they referred to identity-relevant issues in general and not to specific life domains (e.g., 'I am not sure what I'm doing in school; I guess things will work themselves out' was changed into 'I'm not sure where I'm heading in my life; I guess things will work themselves out'). Third, items of the normative subscale referring to commitment were deleted (e.g., 'Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts' or 'I've known since high school that I was going to college and what I was going to major in'). In newly formulated items of the normative subscale, no references to commitment were made.

The initial version of the ISI-4 had 13 items for the information-oriented scale, 13 for the normative scale, and 13 for the diffuse-avoidant scale. The aim of this study was to select those items with psychometrically sound characteristics in two language versions of the ISI-4, that is, English and Dutch,

and to evaluate the psychometric properties of the ISI-4. A Dutch version of the ISI-4 is highly appropriate because identity is frequently studied in The Netherlands and Belgium. Specifically, through exploratory and confirmatory factor analyses we aimed to select items that yield a factor solution that is stable and consistent across both language versions (Nesselroade, 1994). The psychometric features of the ISI-4 will further be evaluated by means of reliability analyses and inspection of the correlations among its subscales. Because the identity styles are three distinct constructs, it is expected that correlations among the scales will be low to modest.

Method

Participants and Procedure

Two samples were used, one involving US participants and one involving Dutch-speaking participants. The US sample (Sample 1) consisted of 174 undergraduate students in psychology at a small university in the Mid-West. Mean age was 19 years ($SD = 1.29$) and 65% of the participants was female. The Dutch sample consisted of 549 undergraduate students in psychology, 181 from a large university in the north of The Netherlands (Sample 2) and 368 from a large university in the Dutch-speaking part of Belgium (Sample 3). Mean age in this combined sample was 19 years ($SD = 2.26$) and 85% of the participants was female. Participants received written

information about the study and completed an informed consent form.

Measures

   Identity styles. Participants completed the ISI-4, which was developed by a multi-national team using a committee approach. The first four authors of this manuscript developed the ISI-4 based on the aforementioned principles. Items were first formulated and reformulated in English and through discussion the committee tried to arrive at a set of items that would be applicable in a Dutch-language version as well. Only items that each of the committee members agreed upon were included in the final ISI-4. The most substantial changes were made to the normative scale because most of the substantive problems arose in this scale. After finalizing the English version of the ISI-4, items were translated into Dutch using a translation/back-translation procedure. This approach involved that the Dutch-speaking authors of this paper translated the questionnaire to Dutch. Differences in translations were discussed in committee and disagreements were resolved through consensus. Next, items were translated back into English and an independent person matched the original and the back-translated items. Correct matching was achieved for all items.

   To select the items for the final ISI-4, we first determined the factor structure of the ISI-4 by subsequently conducting exploratory factor analysis within the subscales, exploratory

factor analysis across subscales, and confirmatory factor analysis. After item selection, we conducted reliability analyses and looked at the subscale intercorrelations.

Results

Factor Structure of the ISI-4

Exploratory factor analysis within subscales. Exploratory Factor Analysis (EFA), more specifically Principal Component Analysis (PCA; Kim & Mueller, 1978; Tacq, 1997), was conducted on the three subscales of the ISI-4 separately. A minimal requirement for an item to be retained was that it loaded .40 or higher on its intended factor. This was required in both the US sample and Dutch sample because an equivalent factor structure across different translations was aimed at. Therefore, these analyses were performed separately within each sample. Each scale contained at least some items that did not load .40 or higher on their intended factor. Hence, 4 items were removed from the information-oriented scale, 4 from the normative scale, and 2 from the diffuse-avoidant scale.

Exploratory factor analysis across subscales. An overarching PCA on the remaining 29 items was performed. In the US sample, eight components had an eigenvalue greater than 1: 5.39, 3.64, 2.54, 1.66, 1.36, 1.25, 1.11, and 1.00. In the Dutch sample, seven components had an eigenvalue greater than 1: 5.41, 2.95, 2.28, 1.53, 1.31, 1.22, 1.04, and 1.00. Because in both samples the scree plot showed a kink after the third

component, a PCA with three components followed by an orthogonal rotation (VARIMAX) was performed. The aim of this analysis was to detect items that had cross-loadings of .40 or higher or that failed to load .40 or higher on their corresponding factor. Based on these results, 2 items were removed from the information-oriented scale, 1 from the normative scale, and 2 from the diffuse-avoidant scale. A PCA was then performed on the final set of 24 items. Table 2 indicates that this replication yielded a near-perfect solution without cross-loadings and with all items obtaining loadings of .40 or higher on their corresponding factor- with the exception of just a single cross-loading. Item 3 of the normative scale loaded on the diffuse-avoidant factor in the Dutch sample. In the US and Dutch samples, the percentages of explained variance were 43.03 and 40.05, respectively.

Table 2

Exploratory Factor Analyses Across Subscales on Final item set

Item	Information-oriented		Normative		Diffuse-avoidant	
	American	Dutch	American	Dutch	American	Dutch
Information-oriented scale						
INFO-1	.44	.44	-.07	.16	.06	.02
INFO-2	.67	.66	-.07	-.07	.14	-.09
INFO-3	.61	.63	.01	-.13	-.28	-.17
INFO-4	.58	.71	.00	-.14	-.26	-.13
INFO-5	.47	.49	.06	-.03	-.29	-.41
INFO-6	.67	.71	.01	.02	-.07	-.08
INFO-7	.64	.71	.08	.01	.10	.01
Normative scale						
NORM-1	.11	.10	.61	.52	-.14	-.16
NORM-2	.29	.21	.55	.52	.10	.29
NORM-3	.12	-.04	.60	.53	.17	.43
NORM-4	-.18	-.12	.66	.64	.01	-.13
NORM-5	-.10	-.12	.63	.64	-.09	-.27
NORM-6	.07	.00	.64	.48	.28	.16
NORM-7	.16	.05	.68	.65	.31	.35
NORM-8	-.28	-.22	.58	.41	.16	.15
Diffuse-avoidant scale						
DIFF-1	-.17	-.06	-.06	-.13	.55	.47
DIFF-2	.20	-.22	.15	.10	.52	.51
DIFF-4	.16	.04	.01	.07	.73	.72
DIFF-5	-.14	-.26	.04	.07	.76	.65
DIFF-6	-.13	-.07	.22	.33	.65	.48
DIFF-7	.05	-.19	.16	.09	.70	.45
DIFF-8	-.11	.20	.15	-.02	.54	.55
DIFF-9	-.03	-.05	-.09	.12	.72	.72

Note. American refers to Sample 1. Dutch refers to Samples 2 and 3.

Confirmatory factor analysis. Confirmatory Factor Analysis (CFA) was performed using LISREL to assess whether a three-factor solution provided an adequate fit to the data. Four model fit indices will be reported to evaluate the fit of the CFA models: the Satorra-Bentler scaled chi-square statistic (SBS-χ^2; Satorra & Bentler, 1994), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), the Comparative Fit Index (CFI; Bentler, 1990), and the Standardized Root Mean Square Residual (SRMR; Kline, 2005). The SBS-χ^2 (Satorra & Bentler, 1994) adjusts, usually downward, the obtained model chi-square statistic based on the degree of non-normality. This correction allows for structural equation modeling with non-normality (Hu, Bentler, & Kano, 1992). The RMSEA is a parsimony-adjusted index that can correct for model complexity. Values of the RMSEA below .05 indicate good fit, values between .05 and .08 indicate reasonable fit, and values above .10 indicate poor fit (Browne & Cudeck, 1993). The CFI assesses the relative improvement in fit of the researcher's model compared with a baseline model (Kline, 2005). Values above .90 indicate a good fit of the model (Hu & Bentler, 1999). The SRMR is a badness-of-fit index. Values below .10 indicate a good fit (Kline, 2005).

CFA was performed on the final item set in the US and the Dutch sample. Estimation of a three-factor model, with the information-oriented scale indicated by 7 items, the normative scale by 8 items, and the diffuse-avoidant scale by 9 items,

yielded an acceptable fit in both the US sample (SBS-χ^2 (249) = 454.56; RMSEA = .07; CFI = .89; SRMR = .09) and the Dutch sample (SBS-χ^2 (249) = 856.40; RMSEA = .07; CFI = .89; SRMR = .08). This fit was improved by adding an error correlation between two items that caused a significant reduction in chi-square, both in the American sample (ΔSBS-χ^2 = 77.72, p < .001) and the Dutch sample (ΔSBS-χ^2 = 75.16, p < .001). Specifically, an error correlation was allowed between Items 19 en 27, both items of the normative scale. Most likely, this error correlation is due to similar wordings in the items, this is, both Item 19 and 27 start with the phrase 'I think it's better to'. Allowing error correlations is considered acceptable when there is a good reason for these error correlations and as long as the error correlations are within factors, which was the case in these data (Kline, 2005).

Finally, factor invariance was examined across language versions and across gender through multi-group CFA. Multi-group CFA was performed to test whether the factor structure was invariant across the English-language version (as assessed in the US sample – Sample 1; N = 174) and the Dutch-language version (as assessed in the combined samples from Belgium and The Netherlands – Samples 2 and 3; N = 549). We estimated both a constrained model, in which all factor loadings are set equal across the two groups, and an unconstrained model, in which all factor loadings are freely estimated. Although the unconstrained model (SBS-χ^2 (499) = 1158.15; RMSEA = .06;

CFI =.91) fit the data somewhat better than the constrained model (SBS-χ^2 (524) = 1205.14; RMSEA = .06; CFI =.91) in terms of chi-square differences (ΔSBS- χ^2 (25) = 49.93; p = .00), the constrained model did not differ from the unconstrained model in terms of the other fit indices that take into account parsimony, that is, the RMSEA and CFI. Given that the latter fit indices did not indicate differences between the constrained and the unconstrained model, the invariance hypothesis should not be rejected (Vandenberg & Lance, 2000). It thus seems that the structure of the ISI-4 is generally invariant across language versions.

To test whether the factor structure was invariant across the samples from Belgium (Sample 3; N = 368) and The Netherlands (Sample 2; N = 181), another multi-group analysis was performed comparing the two Dutch samples. A comparison of the constrained model (SBS-χ^2 (524) = 1059.23; RMSEA = .06; CFI =.90) and the unconstrained model (SBS-χ^2 (499) = 1025.93; RMSEA = .06; CFI =.90) did not reveal differences between the unconstrained model and the constrained model in terms of chi-square differences (ΔSBS- χ^2 (25) = 31.84; p = .16) nor in terms of the RMSEA and CFI. The factor structure of the ISI-4 thus appears to be equivalent in the two Dutch-speaking samples.

To test whether the factor structure was invariant across gender, multi-group analyses were performed in both the US and Dutch sample. A comparison of the constrained model

(SBS-χ^2 (524) = 687.52 ; RMSEA = .06; CFI =.91) and the unconstrained model (SBS-χ^2 (499) = 663.24 ; RMSEA = .06; CFI =.91) in the US sample showed that the unconstrained model did not have a better fit than the constrained model in terms of chi-square differences (ΔSBS- χ^2 (25) = 26.48; p = .38) or in terms of the other fit statistics. Similarly, no significant differences were found between the constrained model (SBS-χ^2 (524) = 1038.49 ; RMSEA = .06; CFI =.91) and the unconstrained model (SBS-χ^2 (499) = 1006.00 ; RMSEA = .06; CFI =.91) in the Dutch sample, neither in terms of chi-square differences (ΔSBS- χ^2 (25) = 35.04; p = .09) nor in terms of the other fit indices. Together, these findings suggest that the factor structure of the ISI-4 is equivalent across gender.

Based on the results of the PCAs and CFAs, we decided to continue with the version of the ISI-4 with 7 items for the information-oriented scale, 8 items for the normative scale, and 9 items for the diffuse-avoidant scale. All items can be found in the Appendix.

Internal consistency. In the US (Sample 1), Cronbach's alphas were .71, .78, and .82 for the information-oriented, normative, and diffuse-avoidant style, respectively. In the Dutch sample (Samples 2 and 3 combined), Cronbach's alphas were .76, .69, and .77 for the information-oriented, normative, and diffuse-avoidant style, respectively. In sum, Cronbach's alphas were typically around .70 or higher, indicative of a respectable internal consistency of the ISI-4 (DeVellis, 1991).

Subscale intercorrelations. In the US sample (Sample 1) the intercorrelations were .06 (*p* = .44*)*, -.18 (*p* < .05), and .24 (*p* < .01) between the information-oriented and normative style, the information-oriented and diffuse-avoidant style, and the normative and diffuse-avoidant style, respectively. In the Dutch sample (Samples 2 and 3 combined) the intercorrelations were -.08 (*p* = .06*)*, -.31 (*p* < .001), and .26 (*p* < .001) between the information-oriented and normative style, the information-oriented and diffuse-avoidant style, and the normative and diffuse-avoidant style, respectively. Hence, the intercorrelations between the identity style subscales were comparable between the US and Dutch sample and very weak to weak (Floyd et al., 2006), proving that the identity styles are three distinct constructs.

So, through different steps of item selection, the original version of the ISI-4 with 39 items was reduced to 24 items which clearly measure three different identity styles. The internal consistency of the three subscales is satisfying and the intercorrelations are weak and in line with expectations. Therefore, it can be concluded that the ISI-4 can be used in the three different nations examined.

STUDY 2: TEST-RETEST RELIABILITY AND STABILITY OF THE ISI-4

Test-retest reliability refers to the correlation between two administrations of the same test over a short term period,

whereas stability is defined as a retest after a two-month or longer interval (Watson, 2004). A high test-retest reliability (r = .80 or higher) and a high stability (r = .60 or higher) was expected, in line with the findings on the ISI-3 in the United States. Study 2 was conducted in Belgium only.

Method

To examine the test-retest reliability of the ISI-4 over a 1-week interval, Sample 5 was used. Sample 5 consisted of 251 Belgian undergraduate students in psychology, communication, and audiology. Mean age was 19 years (SD = 1.90) and 91% was female. To measure stability over a 4-month interval, Sample 4, which partially overlapped with Sample 3, was approached four months after the first measurement wave in Sample 3. A longitudinal sample of 145 undergraduate psychology students was created across these two measurement waves. Mean age was 18 years (SD = 1.85) and 85.5% was female. In both samples, the ISI-4 was administered. Cronbach's alphas in the longitudinal 1-week sample were .74, .71, and .80 for the information-oriented, normative, and diffuse-avoidant scales, respectively. Cronbach's alphas in the longitudinal 4-month sample were .77, .75, and .78 for the information-oriented, normative, and diffuse-avoidant scales, respectively.

Results

Test-retest reliability was .80, .85, and .87 for the information-oriented style, the normative style, and the diffuse-

avoidant style, respectively. Stability was .63, .62, and .66 for the information-oriented style, the normative style, and the diffuse-avoidant style, respectively. So, in line with expectations, test-retest reliability and stability coefficients of the ISI-4 were high, indicating low measurement error. The finding that the retest correlation systematically declines as the elapsed time interval increases, indicates a possibility for meaningful changes of the identity styles over time (Watson, 2004).

STUDY 3: ASSOCIATIONS WITH ALTERNATIVE IDENTITY STYLE MEASURES

In this study correlations between the ISI-4 and alternative measures of identity styles were explored. These alternative measures are the ISI-3 (Berzonsky, 1992a) and the Identity Processing Style Q-Sort (IPSQ; Pittman, Kerpelman, Lamke, & Sollie, 2009). Study 3 was conducted in Belgium only.

Method

Participants

Sample 4 was used to examine the associations between the ISI-3 and the ISI-4. The sample consisted of 214 undergraduate psychology students. Mean age was 19 years (*SD* = 2.86) and 81% was female. Sample 6 was used to examine the associations between the IPSQ and the ISI-4. The sample consisted of 81

undergraduate psychology students. Mean age was 18 years (*SD* = 1.29) and 78% was female.

Measures

ISI-3. The ISI-3 (Berzonsky, 1992a) was administered in Sample 4. Cronbach's alphas were .70, .55, and .74 for the information-oriented, normative, and diffuse-avoidant scales, respectively. Intercorrelations were .06 (p = .35), -.37 (p < .001), and -.20 (p < .01) between the information-oriented and the normative style, the information-oriented and the diffuse-avoidant style, and the normative and the diffuse-avoidant style, respectively.

ISI-4. The ISI-4 was administered in Samples 4 and 6. Cronbach's alphas in Sample 4 were .79, .76, and .81 for the information-oriented, normative, and diffuse-avoidant scales, respectively. Cronbach's alphas in Sample 6 were .64, .67, and .77 for the information-oriented, normative, and diffuse-avoidant scales, respectively. Intercorrelations among the subscales were comparable to the ones reported before.

IPSQ. The IPSQ (Pittman et al., 2009) was administered in Sample 6. Participants identify the 'relative' importance of items used to assess the three identity styles. They weigh and arrange a set of 60 items into a fixed 9-column distribution. Respondents are asked to consider themselves in the present and to sort the 60 cards into a normal distribution, where items least like the sorter are placed in the first column and items most like the sorter go

in the last column. (See Block, 2008, for an in-depth treatise on the Q-Sort method). The sort contains three categories of items, all referring to the present: those directly patterned after Berzonsky's (1992a) descriptions of the identity styles; those that describe empirical correlates of the identity styles; and those that represent aspects of human, social, and economic capital. Correlations are calculated for each student's sort to generate a coefficient of similarity with each of the information-oriented, normative, and diffuse-avoidant criterion sorts. These prototype sorts of the identity styles were defined by experts in identity theory ($N = 12$).

In earlier research (Pittman et al., 2009), the IPSQ was a reliable instrument in terms of test-retest reliability over a 1-month interval ($N = 31$, *Mean r* = .71). A peculiar feature of the IPSQ is the very high negative correlation between the information-oriented style and the diffuse-avoidant style, due to the special measurement strategy of the IPSQ. This very strong association raises some doubt about the distinctiveness of these two constructs as assessed by the IPSQ (Pittman et al., 2009) and obscures the meaning of any grouping of individuals based on the scores for these same constructs. However, this problem appears to be characteristic of Q-Sort measures. Previous Q-Sort research with the identity statuses revealed a correlation of -.83 between the achievement and the diffusion status prototypes (Mallory, 1989). In this study the correlations among the IPSQ-subscales were -.34 ($p < .01$), .09 ($p = .42$), and -.94 ($p < .001$)

between the information-oriented and the normative style, the normative and the diffuse-avoidant style, and the information-oriented and the diffuse-avoidant style, respectively.

Results

Zero-order and partial correlations (controlling for the intercorrelations among the ISI-4 subscales) are presented in Table 3. Correlations between corresponding scales (indicated in bold in the table) of the ISI-3 and ISI-4 were moderate (information-oriented and normative styles) to high (diffuse-avoidant style) (Floyd et al., 2006). This is probably due to the fact that more changes were made to the information-oriented and normative scales compared to the diffuse-avoidant scale. Correlations between corresponding scales of the IPSQ and ISI-4 were all moderate (Floyd et al., 2006), probably due to the similar temporal frame of reference (i.e., the present) of both measurements. In sum, the correlations of the ISI-4 with both alternative identity style measures were satisfactory.

Table 3

Zero-Order and Partial Correlations Between ISI-4 and Alternative Identity Styles Measures

Scale	Information-oriented		Normative		Diffuse-avoidant	
	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial
Identity Style Inventory-Version 3 [a]						
Information-oriented	**.58***	**.53***	-.20**	-.12	-.31***	-.12
Normative	.06	.02	**.48***	**.58***	-.16*	-.36***
Diffuse-avoidant	-.33***	-.13	.18**	-.11	**.77***	**.74***
Identity Processing Q-Sort [b]						
Information-oriented	**.52***	**.42***	-.31**	-.32**	-.53***	-.45***
Normative	-.08	-.01	**.65***	**.65***	.04	.00
Diffuse-avoidant	-.52***	-.41***	.16	.12	**.54***	**.46***

Note. Correlations between corresponding scales in bold. Partial correlations control for the intercorrelations among the three ISI-4 subscales.

[a] $N = 214$.

[b] $N = 81$.

* $p < .05$. ** $p < .01$.   *** $p < .001$.

STUDY 4: CONSTRUCT VALIDITY OF THE ISI-4:
ASSOCIATIONS WITH RELATED CONSTRUCTS

The question of validity is whether an instrument measures the concepts it is intended to measure. Construct validity in this study was investigated through correlations between the ISI-4 and five crucial constructs, different from but closely related to the identity style concept (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). One's identity style is conceptually related to one's identity status, commitment, identity content emphasis, and how one processes information (i.e., some cognitive variables). Study 4 was conducted in the US and Belgium.

Based on the relations between the identity styles and statuses, as found in research with the ISI-3 and mentioned in the introduction, the following relations were expected: a positive relation between the information-oriented identity style and the achievement and moratorium status, a positive relation between the normative identity style and the foreclosure status, and a positive relation between the diffuse-avoidant style and the diffusion status.

Previous research with the ISI-3 has substantiated that adolescents who use an information-oriented and a normative identity style have firmer commitments than adolescents who use a diffuse-avoidant identity style (Berzonsky, 2003). The

rational, mentally effortful informational style will result, in many cases, in strong commitments. The relatively automatic internalization of values and goals associated with the normative style should lead to strong, firmly held commitments. Diffuse-avoidance should be negatively correlated with identity commitment. Therefore, the information-oriented and the normative identity style were expected to relate positively to commitment, whereas the diffuse-avoidant identity style was expected to relate negatively to commitment.

Previous research with the ISI-3 has indicated a relation between identity content emphases and identity styles (Berzonsky, 1994; Berzonsky et al., 2003). Identity content emphasis can be defined as the type of self-attributes people use to define their sense of identity. Three different identity content emphases can be distinguished, that is, personal, collective, and social. A personal identity is grounded in private self-attributes such as personal values and goals, self-knowledge, and a unique personal status. A collective identity is grounded in expectations and normative standards of significant others and reference groups such as family, community, country, and religion. A social identity is grounded in public self-elements such as reputation, popularity, and impressions of others (Cheek, 1989; Cheek & Briggs, 1982; Hogan & Cheek, 1983; Triandis, 1989). Individuals who score high on each style scale can be expected to emphasize, attend to, and process different sorts of self-attributes or self-components in defining themselves and

forming a sense of identity. Specifically, a positive relation is expected between the information-oriented identity style and personal identity, between the normative identity style and collective identity, and between the diffuse-avoidant identity style and social identity.

Epstein (1990) has made a distinction between rational/analytic and intuitive/experiential information processing systems, which can be seen as cognitive variables. The rational/analytic system can be compared with the concept of need for cognition. This concept refers to the tendency of an individual to engage in and enjoy active information processing (Cacioppo & Petty, 1982). The intuitive system is more experience-based. The more emotional and concrete information is more processed in an automatic way (Epstein, 1990). Previous research with the ISI-3 has found that adolescents who use an information-oriented identity style process information in a rational and an intuitive way, suggesting that they are adepts within both reasoning systems (Berzonsky, 1990, 2008). The information processing and thinking of adolescents who use a normative identity style is driven by internalized norms. In that way, normative individuals may not actively seek problem-relevant information, except for information of significant others, but they relatively automatically internalize and adopt values, standards and regulatory mechanisms endorsed by significant others and referent groups (Berzonsky, 2008; Berzonsky & Sullivan, 1992). Adolescents who use a diffuse-

avoidant identity style procrastinate and avoid their identity decisions. They operate in a predominantly emotion-focused manner with limited concern about rational considerations and long-term logical implications (Berzonsky, 1990, 2008). Based on these findings, the information-oriented identity style was hypothesized to positively relate to need for cognition and faith in intuition. The normative identity style was expected to show a positive relation with faith in intuition. The diffuse-avoidant identity style was expected to relate negatively with need for cognition and positively with faith in intuition.

Method

Participants

Samples 1 and 3 were used. The US sample (Sample 1) consisted of 174 undergraduate students in psychology. Mean age was 19 years ($SD = 1.29$) and 65% was female. The Belgian sample (Sample 3) consisted of 368 undergraduate students in psychology. Mean age was 18 years ($SD = 1.59$) and 87% was female.

Measures

Identity styles. The ISI-4 was administered. As reported in Study 1, Cronbach's alphas in Sample 1 were .71, .78, and .82 for the information-oriented, normative, and diffuse-avoidant scales, respectively. Cronbach's alphas in Sample 3 were .76,

.65, and .75 for the information-oriented, normative, and diffuse-avoidant scales, respectively.

Identity status. Participants completed the EOM-EIS-II (Bennion & Adams, 1986), which contains 24 items targeting each of the four identity statuses in four ideological domains (politics, religion, occupation, and lifestyle). Cronbach's alphas in Sample 1 were .60, .82, .72, and .62 for diffusion, foreclosure, moratorium, and achievement, respectively. Cronbach's alphas in Sample 3 were .62, .62, .59, and .56 for diffusion, foreclosure, moratorium, and achievement, respectively.

Commitment. The commitment scale of the ISI-4 was administered. During the revision process of the ISI-3, some minor revisions were made to the commitment scale as well. More specifically, items referring to a specific identity domain were reformulated in more general wordings and if this was not possible, the item was deleted. The commitment scale of the ISI-4, containing 9 items (e.g., 'I know basically what I believe and don't believe'), is very similar to the one included in the ISI-3 (r = .80, p < .001; Sample 4). A PCA clearly supported a one-factor solution for the 9 items retained. Cronbach's alphas were .83 and .82 in Samples 1 and 3, respectively. The commitment items can be found in the Appendix.

Identity content emphasis. The Aspects of Identity Questionnaire (AIQ-IV; Cheek, Smith, & Tropp, 2002) was used. Participants have to consider how the items apply to them (from 'not important to my sense of who I am' to 'extremely

important to my sense of who I am'). The personal identity scale contains 10 items (e.g., 'My personal values and moral standards'), the social identity scale contains 7 items (e.g., 'My popularity with other people'), and the collective identity scale contains 8 items (e.g., 'My race or ethnic background'). Cronbach's alphas in Sample 1 were .84, .77, and .78 for personal, social, and collective identity, respectively. Cronbach's alphas in Sample 3 were .76, .81, and .71 for personal, social, and collective identity, respectively.

Need for cognition. A shortened version (15 items) of the Need for Cognition scale (Cacioppo, Petty, & Koa, 1984) was administered. An item reads 'I would prefer complex to simple problems'. Cronbach's alphas were .91 and .84 in Sample 1 and 3 respectively.

Faith in intuition. Participants completed the Faith in Intuition scale, that contains 12 items, most of which refer to having confidence in one's feelings and immediate impressions as a basis for decisions and actions (Epstein, Pacini, Denes-Raj & Heier, 1996). One item reads 'My initial impressions of people are almost always right'. Cronbach's alphas were .82 and .78 in Sample 1 and 3 respectively.

Results

Zero-order and partial correlations are shown in Table 4 (expected significant correlations in bold). Again, partial correlations control for the intercorrelations among the three

ISI-4 subscales. In line with expectations, the information-oriented identity style showed a positive correlation with the achievement status, commitment, personal identity, need for cognition, and faith in intuition in both samples. The information-oriented style was positively related to the moratorium status, but only when controlled for the other identity styles. In addition, the information-oriented style was positively related to social identity in both samples and negatively to the diffusion status in the Dutch sample.

In line with expectations, the normative identity style was positively associated with the foreclosure status and collective identity in both samples. The association with commitment was positive, but in the Dutch sample only when controlling for the other identity styles. The normative style was positively related to faith in intuition, but only in the US sample. In addition, the normative style was also positively related to the achievement status and social identity in both samples.

In line with expectations, the diffuse-avoidant identity style showed a positive association with the diffusion status and social identity and a negative one with commitment and need for cognition in both samples. The expected negative relation between the diffuse-avoidant style and faith in intuition was not found. In addition, the diffuse-avoidant identity style was negatively related to the achievement status, personal and collective identity and positively related to the moratorium and foreclosure statuses in both samples.

According to the Floyd et al. (2006) benchmarks, most of the expected correlations (in bold) were weak to moderate but similar associations were found in earlier research with the ISI-3. Taken together, these findings were in line with the expected patterns, meaning that the convergent validity of the ISI-4 is satisfactory.

Table 4

Zero-Order and Partial Correlations Between Identity Styles and Validation Variables

Variable	Information-oriented				Normative				Diffuse-avoidant			
	American		Dutch		American		Dutch		American		Dutch	
	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial
					Identity status & Commitment							
Achievement status	**.33***	**.28***	**.28***	**.21***	.18*	.26***	.05	.13**	-.29***	-.32***	-.31***	-.27***
Moratorium status	**.07**	**.17***	**.08**	**.16**	-.08	-.23**	.06	-.02	.40***	.47***	.24***	.27***
Foreclosure status	-.04	-.10	-.10	-.06	**.62***	**.61***	**.35***	**.32***	.20**	.03	.22***	.13*
Diffusion status	-.09	-.01	-.24***	-.16**	.06	-.08	.08	.01	**.50***	**.50***	**.32***	**.26***
Commitment	**.30***	**.21**	**.26***	**.15**	**.22**	**.43***	**.02**	**.16**	**-.55***	**-.62***	**-.46***	**-.44***

(table continues)

Table 4 *(continued)*

Variable	Information-oriented				Normative				Diffuse-avoidant			
	American		Dutch		American		Dutch		American		Dutch	
	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial
Identity content emphasis												
Personal identity	**.45*****	**.42*****	**.28*****	**.23*****	.09	.13	-.11*	-.07	-.24***	-.21**	-.24***	-.16**
Collective identity	.19**	.15	.09	.05	**.49*****	**.51*****	**.28*****	**.32*****	-.04	-.18*	-.11*	-.17***
Social identity	.22**	.25***	.06	.12*	.36***	.31***	.19***	.14**	**.22****	**.19***	**.19*****	**.18*****
Cognitive variables												
Need for cognition	**.30*****	**.26*****	**.34*****	**.28*****	-.16*	-.11	-.23***	-.18***	**-.38*****	**-.32*****	**-.35*****	**-.24*****
Faith in intuition	**.32*****	**.28*****	**.09**	**.06**	.27***	.29***	**.08**	**.08**	**-.09**	**-.12**	**-.07**	**-.07**

Note. Correlations in bold were expected to be significant. Partial correlations control for the intercorrelations among the three ISI-4 subscales.

* $p < .05$. ** $p < .01$.   *** $p < .001$.

GENERAL DISCUSSION

An important developmental task of adolescence is the formation of an integrated sense of personal identity. Identity styles refer to different ways to process identity-relevant information. Berzonsky (1990) proposed three different identity styles, that is, the information-oriented style, the normative style, and the diffuse-avoidant style. Because of problems with the ISI-3, the currently used measure of identity styles, we aimed to develop a revised measure of identity styles, that is, the ISI-4, and to validate this new measure in three countries (i.e., Belgium, the Netherlands, and the US). As opposed to the ISI-3, items of the ISI-4 were all formulated in the present tense, and no references were made to specific identity domains nor to commitment. That way, the interpretability of the scores was increased compared to the ISI-3, which has a low to modest reliability, especially for the normative subscale. Through different steps of exploratory factor analyses, the number of ISI-4 items was reduced from 39 to 24 items, 7 items for the information-oriented scale, 8 for the normative scale, and 9 for the diffuse-avoidant scale, forming the final set of items of the ISI-4. Confirmatory factor analyses and subscale intercorrelations showed that the identity styles are three distinct constructs. High test-retest reliability and stability were found, suggesting that the ISI-4 is a reliable measure.

It can be noted that the internal consistency in all the samples of this study was acceptable (.60 or higher), even in the smaller samples. Associations with alternative identity style measures and the construct validity of the ISI-4 were examined in two different studies. First, moderate to high correlations were found between the ISI-4 and two alternative identity style measures, that is, the ISI-3 (Berzonsky, 1989) and the IPSQ (Pittman et al., 2009). Second, construct validity was demonstrated through the expected correlational pattern between the ISI-4 and other related constructs, that is, identity statuses, commitment, identity content emphases, need for cognition, and faith in intuition.

Several findings with the normative scale deserve special attention. First, as expected, the improvement of the internal consistency is most salient for the normative scale. Compared to the other subscales, more changes were made to the normative scale. Second, the rather extensive changes to the normative subscale probably led to the relatively lower correlation with the normative scale of the ISI-3 (Study 3) compared to the associations for the information-oriented and diffuse-avoidant subscales. Third, a positive correlation is found between the normative and the diffuse-avoidant subscales, which is different from the negative correlation between these two subscales found in the ISI-3. A possible explanation for this finding is that during the reformulation process, the references to commitment as found in the normative subscale of the ISI-3 were deleted from the new version of the subscale. Fourth, the correlation

between the normative subscale and commitment in the Belgium sample is low, compared to the association obtained in the US sample. Further research is needed on the meaning of commitment in both nations.

Some limitations of the series of studies reported in this article must be mentioned. First, all measures in the studies were self-report measures. In future research, observational measures or multiple informants should also be included to assess identity styles. Second, the samples consisted primarily of Caucasian Dutch-speaking and North-American female psychology students. The question is whether the findings can be generalized to males, other students, working adolescents, and other ethnic groups. Third, construct validity was only examined using five related measures. Because the identity styles are broad-band constructs, future research should include measures such as need for cognitive closure, coping style and openness to experience (e.g., Berzonsky, 1992b). Finally, the present series of studies focused on variable-centered analyses only. Additional work using person-centered analyses such as identity style groups may provide further insights into the validity of the new measure. Despite these limitations of the current series of studies, the ISI-4 appears to be a reliable and valid measure that can be used in future research on identity development.

NOTES

APPENDIX

Items of the ISI-4

Information-oriented scale

1. Talking to others helps me explore my personal beliefs.

2. When facing a life decision, I take into account different points of view before making a choice.

3. When facing a life decision, I try to analyze the situation in order to understand it.

4. When making important life decisions, I like to think about my options.

5. I handle problems in my life by actively reflecting on them.

6. When making important life decisions, I like to have as much information as possible.

7. It is important for me to obtain and evaluate information from a variety of sources before I make important life decisions.

Normative scale

1. I automatically adopt and follow the values I was brought up with.

2. I strive to achieve the goals that my family and friends hold for me.

3. I never question what I want to do with my life because I tend to follow what important people expect me to do.

4. I think it is better to adopt a firm set of beliefs than to be open-minded.

5. I think it's better to hold on to fixed values rather than to consider alternative value systems.

6. I prefer to deal with situations in which I can rely on social norms and standards.

7. When I make a decision about my future, I automatically follow what close friends or relatives expect from me.

8. When others say something that challenges my personal values or beliefs, I automatically disregard what they have to say.

Diffuse-avoidant scale

1. I'm not sure where I'm heading in my life; I guess things will work themselves out.

2. Many times, by not concerning my self with personal problems, they work themselves out.

3. I am not really thinking about my future now, it is still a long way off.

4. When I have to make an important life decision, I try to wait as long as possible in order to see what will happen.

5. I try not to think about or deal with personal problems as long as I can.

6. I try to avoid personal situations that require me to think a lot and deal with them on my own.

7. Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.

8. Who I am changes from situation to situation.

9. When personal problems arise, I try to delay acting as long as possible.

Commitment scale

1. I know basically what I believe and don't believe.

2. I know what I want to do with my future.

3. I am not really sure what I believe. (reversed)

4. I am not sure which values I really hold. (reversed)

5. I am not sure what I want to do in the future. (reversed)

6. I have clear and definite life goals.

7. I am not sure what I want out of life. (reversed)

8. I have a definite set of values that I use to make personal decisions.

9. I am emotionally involved and committed to specific values and ideals.

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Chapter 4

Identity Styles and Motives

Why do Adolescents Gather Information or
Stick to Parental Norms?
Examining Autonomous and Controlled
Motives Behind Adolescents' Identity Style

Smits, I., Soenens, B., Vansteenkiste, M., Luyckx, K., &

Goossens, L. *Manuscript submitted for publication*

ABSTRACT

This study examined associations between autonomous and controlled motives behind using an information-oriented or a normative identity style and aspects of adolescents' psychosocial adjustment in mid-adolescence. In a sample of 247 adolescents, it was found that the motives behind the identity styles explained additional variance beyond the identity styles in two of the adjustment outcomes examined, such that autonomous and controlled motives were respectively positively and negatively related to commitment and personal well-being. Perceived autonomy-supportive parenting was examined as a possible antecedent of the motives behind identity styles. Consistent with hypotheses, it was found that autonomy-supportive parenting was positively related to autonomous motives and negatively to controlled motives. Implications for future research on the motivational dynamics behind identity development are discussed.

INTRODUCTION

A crucial task during adolescence involves the exploration of identity-relevant alternatives and the making of important life decisions (Erikson, 1968). Before deciding on a particular identity commitment (such as a study choice) adolescents can explore their possibilities in quite different ways. Some adolescents will gather as much information about different studies as they can, whereas other adolescents will orient themselves towards their parents' norms, thus basically conforming to the existing norms in their immediate environment. These inter-individual differences in adolescents' ways of exploring possibilities and of processing identity-relevant information are referred to as identity styles (Berzonsky, 1990).

In addition to the degree to which adolescents rely on one particular identity style over another in making their decisions, they might have quite different motives for doing so. For example, some adolescents actively gather information (i.e., they use an information-oriented style) because they think this is important for them to make a well-informed and thoughtful choice, whereas others might do so because they would feel guilty and regret it if they would end up making a poorly informed choice. Similarly, adolescents may engage in a normative style for quite diverse motives. Some normative adolescents might act in accordance with their parental norms

out of fear of being criticized or to avoid parental disappointment, whereas others might genuinely concur with their parents and may choose to adopt their parents' advice. The different motives that might regulate the use of an identity style are referred to as motivational regulations and have received considerable attention within Self-Determination Theory (SDT; Deci & Ryan, 2000; Vansteenkiste, Ryan, & Deci, 2008). Based on SDT, we argue that the association between a particular identity style and relevant psychosocial outcomes might be quite different depending on the motives underlying the use of such an identity style. Specifically, more positive psychosocial outcomes (e.g., stronger identity commitment and higher personal well-being) are expected to follow if one freely and autonomously chooses to rely on a particular identity style, whereas less positive outcomes are expected if one feels pressured to make use of a particular identity style. In addition to examining the role of motives underlying one's identity styles, the present study also examines whether identity styles still yield an independent contribution to outcomes once the motives underlying one's identity style are taken into account. Finally, we will examine associations between perceived autonomy-supportive parenting, identity styles, and their underlying motives.

Berzonsky's Identity Style Model

Erikson's (1968) theory of identity development has been made amenable to empirical research in a number of models and paradigms (e.g., Marcia, 1966). One of the most visible and prominent models in current identity research is the identity style model of Berzonsky (1990). This model addresses individual differences in the way adolescents explore identity-relevant options, which are referred to as identity styles. An identity style thus refers to the strategy that an individual prefers to process, structure, utilize, and revise self-relevant information. Specifically, Berzonsky (1990) distinguishes between three different identity styles: the information-oriented style, the normative style, and the diffuse-avoidant style. Adolescents who use an information-oriented style deal with identity issues by actively seeking out, processing, and utilizing identity-relevant information to make well-informed choices. Adolescents who use a normative style focus on the normative expectations and prescriptions held up by significant others and reference groups when making an identity decision. Finally, adolescents who use a diffuse-avoidant style do not or only passively explore identity options, as they tend to procrastinate decisions about personal problems until situational demands force a choice upon them.

Research has shown that these identity styles show a specific pattern of associations with indicators of adolescents' psychosocial functioning, the most prominent of which are

strength of identity commitment (i.e., how strongly one endorses identity-relevant choices), psychological well-being, and interpersonal defensiveness (Soenens, Duriez, & Goossens, 2005). Strength of commitment and well-being have been found to differentiate mainly between the information-oriented style and the diffuse-avoidant style. Interpersonal defensiveness, as expressed for instance in ethnic prejudice and right-wing authoritarianism, has been found to differentiate mainly between the information-oriented style and the normative style (Soenens, Duriez, et al., 2005). An information-oriented style is positively related to commitment-making (Berzonsky, 2003) and well-being outcomes, as indexed by high levels of self-esteem and personal growth and low levels of depression (e.g., Berzonsky & Kinney, 1995; Nurmi, Berzonsky, Tammi, & Kinney, 1997; Vleioras & Bosma, 2005). It should be noted, however, that these associations are typically modest and that these associations have not always been replicated (e.g., Passmore, Fogarty, Bourke, & Baker-Evans, 2005). Adolescents with an information-oriented style also display an open and tolerant orientation in interpersonal relationships, as reflected in the fact that they have mature and honest relationships (Berzonsky & Kuk, 2000) and reject prejudiced attitudes towards minority groups (Soenens, Duriez et al., 2005). The diffuse-avoidant style is associated with negative outcomes only, such as lower well-being (Phillips & Pittman, 2007; Seaton & Beaumont, 2008; Vleioras & Bosma, 2005). However, some studies failed to find

that diffuse-avoidant individuals showed lower self-worth than their agemates who used any of the other two styles (Beaumont & Zukanovic, 2005).

A normative identity style has also been found to be positively related to commitment (Berzonsky, 2003). Associations between a normative style and personal well-being, if any, are positive. Some studies, for instance, have found that normative adolescents experience high levels of self-esteem and low levels of depression (Beaumont & Zukanovic, 2005; Berzonsky, 2003; Nurmi et al., 1997). Similar to the information-oriented style, these relations are typically modest and have not always been replicated across studies (Passmore et al., 2005). Although a normative style does not seem to undermine adolescents' capacity to form commitments or adolescents' experience of personal well-being, this identity style does seem to have a cost when it comes to interpersonal relationships. A normative style has been shown to relate positively to ethnic prejudice (Soenens, Duriez et al., 2005), presumably because the rigid and rule-obedient attitude that characterizes normative individuals makes them more susceptible to developing closed-minded and intolerant attitudes. Also, normative adolescents have been found to develop less honest and mature relationships (Berzonsky & Kuk, 2000).

Research on identity styles has devoted attention to the degree to which adolescents rely on these different identity styles in exploring identity-relevant information. What has been

relatively neglected, however, is the question *why* adolescents make use of these identity styles. One can wonder whether the associations between these identity styles and psychosocial outcomes in mid-adolescence will depend on the motives underlying the identity styles. One theory that is well suited to conceptualize individuals' motives is SDT (Deci & Ryan, 2000), a well-validated theory of motivation and personality development that distinguishes between autonomous and controlled motives for performing a behavior.

The 'Why' of Identity Exploration: Autonomous Versus Controlled Motives

SDT (Ryan & Deci, 2000) views autonomy as an essential ingredient for individuals' optimal development and well-being. Within SDT, autonomous motivation pertains to a willing and volitional engagement in a particular behavior. Autonomous motivation is contrasted with controlled motivation, which implies acting to meet a controlling external standard or a pressuring intra-psychic standard. Applied to the information-oriented way of exploring identity issues, this means that some information-oriented adolescents may engage in an active search for identity alternatives because they personally value the importance of such a search. They understand that an active and personal search might help them in achieving a better informed choice (i.e., autonomous motivation). Others, in contrast, may adopt an information-oriented style because their parents

pressure them to seek out different options before deciding on a particular option or because they anticipate internally pressuring feelings of regret and guilt in case they would end up making a bad choice (i.e., controlled motivation).

The differentiation between autonomous and controlled motives equally applies to the normative identity style. Indeed, as far as a normative style simply involves conforming to other persons' norms, people can freely choose to do so or feel pressured to follow those norms (Vansteenkiste, Zhou, Lens, & Soenens, 2005). Specifically, some normative adolescents may *choose* to seek and rely on the advice of significant others when confronted with identity-relevant situations. Because their reliance on norms comes with a feeling of choice and psychological freedom, they are likely to personally endorse and to willingly adopt these norms (i.e., autonomous motivation). Other normative adolescents, however, may feel pressured to stick to these norms, for instance, because they want to gain the appreciation of their parents by doing so or because they want to avoid feeling disloyal to their parents (i.e., controlled motivation).

Debate exists over whether a diffuse-avoidant style represents a lack of motivation to process and deal with identity-relevant information or whether it represents a motivated and goal-directed strategy to avoid such information and to procrastinate important life decisions. Berzonsky's (1989) initial conceptualization of the diffuse-avoidant identity style leaned

closely towards Marcia's (1966) original conceptualization of the diffused identity status, which primarily involves a lack of motivation and a helpless orientation vis-à-vis the identity formation process. In subsequent work, however, Berzonsky (in press) considered the possibility that a diffuse-avoidant style may involve strategic and intentional attempts to procrastinate identity exploration and to avoid commitments. Further, within SDT, it is maintained that people can not engage in an activity for autonomous or controlled reasons (Vansteenkiste, Lens, Dewitte, De Witte, & Deci, 2004). Therefore, it is possible that both autonomous and controlled motives underlie adolescents' use of a diffuse-avoidant style, as is the case for the other two identity styles. Put simply, adolescents can actively choose not to form personally relevant commitments (i.e., autonomous motivation) or be pressed by external forces such as the peer group not to do so (i.e., controlled motivation).

Yet, empirically it has been found that a diffuse-avoidant style is uniquely positively related to an impersonal causality orientation, which involves a helpless orientation and a lack of motivation (Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2005). Given that it is to date unclear whether or not a diffuse-avoidant style is driven by strategic and intentional motives, it was decided in this first study on the motivational dynamics of identity styles to focus on the two identity styles that do clearly involve a goal-directed and motivated orientation (i.e., the information-oriented and normative styles).

Autonomous and controlled motives reflect qualitatively different types of motivated behavior (Deci & Ryan, 2000). A large body of research in different domains has shown that an autonomous, relative to a controlled, regulation of behavior yields beneficial effects for individuals' psychological personal well-being (Deci & Ryan, 2000). In addition, studies in the domain of social development showed that autonomy relates to more positive and honest interpersonal interactions, whereas control relates to more defensive interpersonal functioning (Hodgins, Koestner, & Duncan, 1996).

Autonomy-Supportive vs. Controlling Parenting

Given the hypothesized differential associations of autonomous and controlled motives with important adolescent psychosocial outcomes, we can wonder about the developmental antecedents of these qualitatively different types of motives. According to SDT, autonomy-supportive parenting represents an essential contextual resource to promote autonomous adolescent functioning and to detract adolescents from acting on the basis of external and internal imperatives and controls (see Grolnick, Deci, & Ryan, 1997; Soenens, Vansteenkiste, & Sierens, 2009).

Autonomy-supportive parents are attuned to their children's needs and try to empathize with their children's perspective. They provide choices and options to their children whenever it is possible and they encourage their children to develop and behave in accordance with their personal values and interests.

Moreover, they refrain from using controlling and pressuring parenting tactics such as guilt-induction and love withdrawal (Grolnick, 2003; Soenens et al., 2007). Research has shown that autonomy-supportive (versus controlling) parenting is positively associated with various adaptive outcomes in children and adolescents, including self-esteem, academic competence, and social adjustment (Joussemet, Koestner, Lekes, & Landry, 2005; Vansteenkiste, Zhou, et al., 2005). Not surprisingly, it has been shown in numerous studies that autonomy-supportive parenting fosters a more autonomous and less controlled behavioral regulation in children and adolescents and that many of the direct associations between autonomy-supportive parenting and adjustment are mediated by this adaptive pattern of behavioral regulation (Grolnick, Ryan, & Deci, 1991; Soenens et al., 2007).

In short, differential associations are to be expected between autonomy-supportive (versus controlling) parenting and the two qualitatively different motives underlying an information-oriented and a normative identity style, with autonomy-supportive (vs. controlling) parenting relating positively and negatively to the autonomous and controlled motives of identity styles, respectively.

The Present Study

The general aim of this study was to contribute to an integration of the identity and motivation literature, as called for by Flum and Blustein (2000). To achieve this objective, we

examined the outcomes and parental antecedents of adolescents' motives for adopting a particular identity style. This study had four specific aims. First, we investigated the bivariate relations between the information-oriented and normative identity styles and the motives behind their use. Based on earlier research (Soenens, Berzonsky, et al., 2005) we hypothesized that the information-oriented style would be more strongly undergirded by, and, hence, associated with autonomous motives, whereas the normative style would be more strongly motivated by and, hence, associated with controlled motives (Hypothesis 1).

Second, we examined whether the autonomous and controlled motives behind the use of a normative or information-oriented identity style relate differently to outcomes such as commitment, well-being, and ethnic prejudice, as suggested by SDT. We hypothesized that the information-oriented style would show positive correlations with commitment and well-being, that the normative style would be correlated with ethnic prejudice, and that the diffuse-avoidant style would show negative correlations with commitment and well-being and a positive one with ethnic prejudice (Hypothesis 2). Based on SDT (Deci & Ryan, 1985) and earlier research (Luyckx et al., 2007), we predicted that an autonomous motivation of both an information-oriented and normative identity style would relate to high levels of commitment and well-being and low levels of ethnic prejudice. Conversely, a controlled motivation would

relate to low levels of commitment and well-being and high levels of ethnic prejudice (Hypothesis 3).

Third, we examined whether the originally observed direct relations between the identity styles and the outcome measures would change if these motives were taken into account. We hypothesized that the style effects would disappear once the underlying motives for their use were also taken into account in a regression analysis (Hypothesis 4). The effects of the underlying motives, by contrast, were expected to hold when the identity styles were entered into the equation (Hypothesis 5). Both of these hypotheses were inspired by SDT.

Fourth, we aimed to examine associations between perceived autonomy-supportive parenting, identity styles, and the motives behind the use of an identity style. We hypothesized autonomy-supportive parenting to relate positively to the information-oriented style and negatively to the normative style and diffuse-avoidant styles (Hypothesis 6). This hypothesis is based on earlier research that linked the former identity style to constructive forms of parenting such as authoritative parenting (Berzonsky, 2004b; Berzonsky, Branje, & Meeus, 2007) or a positive family climate (Matheis & Adams, 2004) and the other two styles to less constructive forms of parenting. (See Smits et al., 2008, for a review). In addition, we hypothesized that autonomy-supportive parenting would relate positively to autonomous motives behind an identity style and negatively to controlled motives behind an identity style. This expectation,

once again, will be examined for the information-oriented and normative styles only (Hypothesis 7).

Finally, based on identity style theory and SDT, no gender differences were expected for the identity styles or their underlying motives. However, males were expected to score higher than females on ethnic prejudice (Duriez, Vansteenkiste, Soenens, & De Witte, 2007) and aspects of well-being such as self-esteem (Kling, Hyde, Showers, & Buswell, 1999; Hypothesis 8).

METHOD

Participants and Procedure

The sample consisted of 266 mid-adolescents from two secondary schools in Flanders (Belgium). Based on univariate (i.e., using z-scores) and multivariate (i.e., using Mahalanobis distance measure) outlier analyses 19 outliers were excluded. Analyses were performed on the remaining sample of 247 participants. The mean age of the participants was 16 years (SD = .92) and 47% was male. Thirty-three percent were in 10th grade, 39% in 11th grade, and 28% in 12th grade. All participants followed the academic track which means they were preparing themselves for higher education. Of the participants, 85% came from intact families, 14% had divorced parents, and 1% of the adolescents came from a family in which one of the parents had deceased. Almost all participants (91%) were White and had the Belgian nationality.

According to the recommendations of the university's Institutional Review Board, active informed consent was obtained from all adolescents. None of the adolescents who were invited to participate, refused participation. From adolescents under the age of 16 years, passive informed consent was obtained from their parents. Two weeks before the beginning of data collection, these parents received a letter about the general purpose and method of the study and were asked to fill out a form if they did not want their child to participate in the study. All parents allowed their child to participate in this study.

Measures

Identity styles. Participants completed the information-oriented and normative subscales of the Dutch version of the Identity Style Inventory - Version 4 (ISI-4; Luyckx, Lens, Smits, & Goossens, in press; Smits et al., 2009). Items were scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alphas for the information-oriented scale (7 items, e.g., "When facing a life decision, I try to analyze the situation in order to understand it"), the normative scale (8 items, e.g., "I strive to achieve the goals that my family and friends hold for me"), and the diffuse-avoidant scale (7 items, e.g., "Many times, by not concerning myself with personal problems, they work themselves out") were .73, .66, and .76, respectively.

The ISI-4 is a recent revision of the Identity Style Inventory - 3 (ISI-3; Berzonsky, 1990) and, as such, aims to assess the same three identity styles as the ISI-3. To increase the interpretability of the scores obtained and to remedy some of the shortcomings of the ISI-3, some items were reformulated and a number of new items were formulated. This revision was guided by three principles. First, in contrast to the ISI-3 – which contained a blend of current and retrospective items – all items were formulated in the present tense. Second, all items in the ISI-4 refer to identity-processing in general (rather than within diverse specific life domains, as is the case in the ISI-3). Third, item content referring to commitment was systematically removed from the identity style items such that the identity style scores obtained are no longer contaminated with content referring to identity commitment. Through exploratory and confirmatory factor analyses, a 24-item version was developed, which contains three clearly delineated factors referring to the three different identity styles.

Smits et al. (2009) have demonstrated that the ISI-4 has satisfactory test-retest reliability and stability. More specifically, test-retest reliability across a 1-week interval was $r = .80, .85,$ and .87 for the information-oriented style, the normative style, and the diffuse-avoidant style, respectively. Stability across a period of 4 months was $r = .63, .62,$ and .66 for the information-oriented style, the normative style, and the diffuse-avoidant style, respectively. Correlations between corresponding scales of

other identity style measures, such as the ISI-3 (Berzonsky, 1990) and the Identity Processing Style Q-Sort (IPSQ; Pittman, Kerpelman, Lamke, & Sollie, 2009) were moderate to high, indicating that the identity styles are conceptualized similarly across the different measures. Correlations with related identity constructs such as identity commitment, identity statuses, and identity content emphases were in the expected direction. For reasons that are as yet poorly understood, the correlations of the normative scale of the new instrument with commitment are somewhat lower than was the case for the corresponding subscale in the original instrument (i.e., the ISI-3). However, consistent with the literature (see Berzonsky, 2004a, for a review), the new normative subscale shows a significant positive correlation with the foreclosure status. In short, the ISI-4 is a valid instrument to measure Berzonsky's (1990) three identity styles.

Motives. An integrated measure of the motives underlying the identity styles, or the degree to which adolescents use an information-oriented or normative identity style in an autonomous or controlled way, was developed and assessed. Specifically, adolescents were first asked to indicate to what extent they used a specific identity style. Then, directly following these items, they were asked why they used this specific style, that is, a number of reasons were formulated to assess the individuals' autonomous versus controlled motives for adopting a particular identity style. These items were

adapted from existing measures of self-regulation (e.g., Ryan & Connell, 1989). Similar procedures were already used in research on the internalization of regulations for religious activities (Neyrinck, Vansteenkiste, Lens, Duriez, & Hutsebaut, 2006) and on how parents communicate about prohibitions of friendships. The scores that were obtained from the latter part of the questionnaire thus reflected the extent to which adolescents use a specific identity style in an autonomous or a controlled way. For four items tapping the information-oriented style and for four items tapping the normative style, we asked participants to rate their motives for engaging in that particular identity-related behavior. These eight items were chosen because they referred to a conscious action or behavior (e.g., "I try to …" or "I strive to …"). Participants rated both autonomous (i.e., 4 items of identified regulation) and controlled (i.e., 4 items of external regulation and 4 items of introjected regulation) motives for engaging in an information-oriented and a normative style. A sample item (normative style) reads "I strive to achieve the goals that my family and friends hold for me. I do this because I think this is personally meaningful (identified regulation). I do this because others pressure me to do so (external regulation). I do this because I would feel guilty if I did not (introjected regulation)."

As explained in the Introduction, no integrated measure of the underlying motives was used for the diffuse-avoidant style, because of the lack of conceptual clarity regarding that style. So

the examination of the underlying motives was restricted to the information-oriented and normative styles. For the information-oriented style, Cronbach's alphas were .70 and .81 for autonomous and controlled regulation, respectively. For the normative style, Cronbach's alphas were .71 and .84 for autonomous and controlled regulation, respectively.

Identity commitment. The 9-item commitment scale of the ISI-4 (Smits et al., 2009) was administered. Items (e.g., "I know basically what I believe and don't believe") were scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha was .79.

Well-being. A well-being composite score was based on measures of depressive symptoms, satisfaction with life, and self-esteem. First, participants completed a brief 12-item version of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), as developed by Roberts and Sobhan (1992) and translated into Dutch by Hooge, Decaluwé, and Goossens (2000). Items are responded to using a 4-point Likert-type rating scale, ranging from 0 (*seldom*) to 3 (*most of the time or always*). Each item asks participants how often they experienced symptoms of depression during the past week. A sample item is "During the last week, I felt depressed". Cronbach's alpha was .83. Second, participants completed the Dutch version (Arrindell, Heesink, & Feij, 1999) of the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larson, & Griffin, 1985). The validity of this Dutch version was demonstrated through

significant positive correlations with self-esteem and euphoria and negative correlations with dysphoria and neuroticism (Arrindell et al., 1999). Items are responded to using a 7-point Likert-type rating scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is "In most ways my life is close to my ideal". Cronbach's alpha was .84. Third, self-esteem was measured using the Dutch version (Franck, De Raedt, Barbez, & Rosseel, 2008) of the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). This well-established scale contains 10 items scored on a 4-point Likert-type rating scale. Participants were asked to indicate how they felt about themselves in general. The validity of the Dutch version was established through a significant negative correlation with neuroticism and positive correlations with extraversion and conscientiousness (Franck et al., 2008). Cronbach's alpha was .88. A principal components analysis on the well-being measures yielded a single factor accounting for 73% of the variance. A unit-weighted composite score was created by calculating the mean of the standardized scores on each of the well-being measures.

Ethnic prejudice. A six-item ethnic prejudice scale (Billiet & De Witte, 1991; Duriez et al., 2007) was administered. Items are responded to using a 5-point Likert-type rating scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item reads "We have to keep our culture pure and fight mixture with other cultures". Cronbach's alpha was .87.

Autonomy-supportive parenting. Two scales were administered to arrive at a composite score for autonomy-supportive (versus controlling) parenting that is, the autonomy support subscale of the Perceptions of Parents Scale (POPS; Grolnick et al., 1991) and the Psychological Control Scale (PCS; Barber, 1996). The 7-item autonomy-support subscale of the POPS (e.g., "My parents allow me to decide things for myself") assesses parents' support of volitional functioning. This scale was validated in earlier research by Soenens et al. (2007). The 8-item PCS (e.g., "My parents are less friendly with me if I don't see things like they do") taps into parental use of intrusive and manipulative control. This scale has been widely used and validated in previous research (Barber, 1996; Soenens, Vansteenkiste, Duriez, & Goossens, 2006). To obtain a composite score for autonomy-supportive versus controlling parenting, we calculated the mean of the autonomy support items and the reverse-scored psychological control items (see e.g., Vansteenkiste, Zhou, et al., 2005 for this approach). Conceptually speaking, parental autonomy support and psychological control indeed represent two highly incompatible parenting dimensions (Grolnick, 2003; Soenens et al., 2007). Studies have shown that both dimensions are negatively correlated (e.g., Soenens & Vansteenkiste, 2005) and in a recent cluster analysis it was shown that high (or low) levels of autonomy-support and psychological control never co-occur within specific parenting profiles (Soenens et al., 2009). Instead,

high levels of autonomy-support always go hand in hand with low levels of psychological control and vice versa. The approach of creating a composite score for autonomy support versus psychological control is justified in the present study by the finding that both dimensions are strongly negatively correlated ($r = -.62$). In the remainder of this paper we will refer to this composite score as a measure of parental autonomy-support. Cronbach's alpha was .90.

RESULTS

Descriptive Statistics

Table 1 presents means and standard deviations for the study variables. Due to missing values, scale scores could not be computed for some of the participants. Accordingly, ns varied somewhat between scales. Given the relatively limited number of missing values, we did not estimate or impute missing values.

We computed a series of correlations to examine associations between age and the study variables. Only the correlation between age and the autonomous motives behind the normative style was significant ($r = -.16$, $p = .01$). We performed a series of ANOVAs to examine whether study variables differed by gender. Results, as presented in Table 1, revealed – in line with Hypothesis 8 – that boys reported higher levels of well-being and ethnic prejudice. In addition, girls reported higher levels of the information-oriented style. We controlled for gender in the

primary analyses because it was the only background variable that was systematically related to the study variables.

Table 1

Descriptive Statistics for the Full Sample and Separately by Gender

Scale	Valid N	Mean (SD)	Full Sample Possible Range	Observed Range	Boys Mean (SD)	Girls Mean (SD)	Gender difference F (1,213)	η²
Information-oriented style	247	4.24 (.47)	1.0-5.0	2.57 - 5.0	4.14 (.49)	4.31 (.45)	7.47**	.03
Normative style	245	2.66 (.52)	1.0-5.0	1.13 - 3.88	2.67 (.57)	2.67 (.47)	0.00	.00
Diffuse-avoidant style	245	2.59 (.63)	1.0-5.0	1.22 - 4.78	2.56 (.60)	2.62 (.66)	0.53	.00
Motives: Controlled - Information	247	2.26 (.70)	1.0-5.0	1.0 - 4.25	2.29 (.70)	2.24 (.71)	0.29	.00
Motives: Autonomous - Information	247	4.15 (.58)	1.0-5.0	2.0 - 5.0	4.08 (.59)	4.21 (.56)	2.69	.01
Motives: Controlled - Normative	246	2.10 (.72)	1.0-5.0	1.0 - 4.13	2.13 (.72)	2.06 (.71)	0.55	.00
Motives: Autonomous - Normative	246	3.47 (.79)	1.0-5.0	1.0 - 5.0	3.52 (.74)	3.41 (.83)	1.10	.00
Identity commitment	247	3.44 (.67)	1.0-5.0	1.56 - 5.0	3.48 (.61)	3.40 (.72)	0.93	.00
Well-being	247	.00 (2.57)	-∞ - +∞	-8.27- 4.22	.67 (2.29)	-.58 (2.66)	15.61***	.06
Ethnic prejudice	245	1.99 (.83)	1.0-5.0	1.0 - 4.67	2.28 (.91)	1.73 (.65)	29.62***	.11
Autonomy-supportive parenting	241	3.98 (.48)	1.0-5.0	2.53 - 5.0	3.95 (.49)	3.99 (.47)	0.41	.00

* $p < .05$. ** $p < .01$.   *** $p < .001$.

Identity Styles, Motives, and Outcomes

Correlations among all study variables can be found in Table 2. The information-oriented style was positively related to autonomous motives and unrelated to controlled motives. The normative style showed a more mixed pattern than the information-oriented style, as it was positively related to both autonomous and controlled motives. It should be noted, however, that the correlation between a normative style and autonomous motives was less pronounced than the correlation between a normative style and controlled motives ($z = 3.02$; $p < .001$). Moreover, because the autonomous and controlled motives behind a normative style were positively correlated ($r = .26$, $p < .001$), we computed partial correlations between the normative style and each of the two motives, controlling for the other motive. These partial correlations reflect unique ('pure') associations of the normative style with each of the two types of motives. Whereas the partial correlation between the normative style and autonomous motives (controlling for controlled motives) was no longer significant ($r = .11$; $p = .09$), the partial correlation between the normative style and controlled motives (controlling for autonomous motives) remained significant ($r = .41$; $p < .001$). Together, these correlations show that an information-oriented style was uniquely related to autonomous motives and that a normative style was predominantly related to controlled motives, as predicted in Hypothesis 1. It may be

pointed out here that the diffuse-avoidant subscale correlated negatively with the autonomous motives behind the information-oriented and the normative style and positively with the controlled motives behind these same styles.

In line with Hypothesis 2, the information-oriented style was positively related to commitment and well-being and negatively to ethnic prejudice, whereas the diffuse-avoidant style showed the reverse pattern of associations with these same variables. The normative style was only positively related to ethnic prejudice. As predicted by Hypothesis 3, an autonomous motive behind the information-oriented style was positively related to commitment and well-being whereas an autonomous motive behind the normative style was only positively related to commitment. A controlled motive behind the information-oriented and normative styles was negatively related to commitment and well-being. A controlled motive behind the normative style was also positively related to ethnic prejudice.

Table 2

Correlations Among All Study Variables

Scale	1	2	3	4	5	6	7	8	9	10
1. Information-oriented style										
2. Normative style	.01									
3. Diffuse-avoidant style	-.38***	.27***								
4. Motives: Controlled - Information	-.02	.32***	.27***							
5. Motives: Autonomous - Information	.64***	-.11	-.42***	-.04						
6. Motives: Controlled - Normative	-.03	.42***	.33***	.70***	-.06					
7. Motives: Autonomous - Normative	.18**	.19**	-.07	.14*	.32***	.23***				
8. Commitment	.34***	-.02	-.49***	-.20**	.31***	-.22***	.18**			
9. Well-being	.28***	-.06	-.32***	-.19**	.30***	-.21***	.10	.41***		
10. Ethnic prejudice	-.14*	.21***	.12*	.12	-.12*	.14*	-.03	-.04	.01	
11. Autonomy-supportive parenting	.34***	-.14*	-.37***	-.18**	.40***	-.24***	.08	.22***	.46***	-.21***

*$p < .05$.   **$p < .01$. ***$p < .001$.

Regression Analyses

Hierarchical multiple regression analyses were performed to control for the effect of gender and to examine the relative contribution of identity styles and motives in the prediction of the outcome variables. These analyses could be conducted for the information-oriented and nomative styles only. Gender and one of these identity styles were entered in Step 1. The motives behind the identity style, entered in Step 1, were subsequently entered in Step 2. Interactions between gender and each of the predictors were entered in Step 3. Because none of these interactions were significant, only the results of Steps 1 and 2 will be reported.

Results for the information-oriented style can be found in the upper panel of Table 3. The variables in Step 1 significantly predicted commitment (R^2 = .13, F (2, 242) = 17.94, p < .001), well-being (R^2 = .16, F (2, 242) = 23.49, p < .001), and ethnic prejudice (R^2 = .10, F (2, 242) = 13.87, p < .001). Boys displayed a more prejudiced orientation and reported lower levels of commitment and well-being. Commitment and well-being were positively predicted by the information-oriented style. The motives behind the information-oriented style, entered in Step 2, added to the prediction of commitment (ΔR^2 = .06, F (4, 242) = 8.57, p < .001) and well-being (ΔR^2 = .06, F (4, 242) = 9.57, p < .001) but not to the prediction of ethnic prejudice. Commitment was negatively predicted by a controlled motive

and positively by an autonomous motive. The initial association between the information-oriented style and commitment decreased only slightly (i.e., from .36 to .25) and remained significant when these motives were taken into account. Well-being was predicted negatively by a controlled motive and positively by an autonomous motive. The initial association between the information-oriented style and well-being weakened (i.e., from .32 to .19) when these regulations were taken into account but was still significant. Ethnic prejudice was not predicted by the motives behind the information-oriented style ($\Delta R^2 = .01$, F (4, 240) = 1.50, $p = .22$). These results do not support Hypothesis 4, but were in line with Hypothesis 5. The motives underlying the information-oriented style did predict commitment and well-being, but the style itself also contributed to the prediction in both cases.

Results for the normative style can be found in the lower panel of Table 3. The variables in Step 1 significantly predicted well-being ($R^2 = .06$, F (2, 242) = 7.59, $p < .001$) and ethnic prejudice ($R^2 = .14$, F (2, 242) = 19.94, $p < .001$). Boys displayed a more prejudiced orientation and reported lower levels of well-being. Ethnic prejudice was positively predicted by the normative style. The motives behind the normative style entered in Step 2 were found to add to the prediction of commitment ($\Delta R^2 = .11$, F (4, 240) = 15.36, $p < .001$) and well-being ($\Delta R^2 = .06$, F (4, 240) = 8.58, $p < .001$). Commitment and well-being were negatively predicted by a controlled motive and

positively by an autonomous motive. Ethnic prejudice was not predicted by the regulations behind the normative style ($\Delta R^2 = .01$, $F (4, 240) = 1.58$, $p = .21$). These findings, then, supported Hypothesis 5, except for ethnic prejudice, where the normative style by itself accounted for the prediction achieved.

Table 3
Regression Analyses of Information-Oriented and Normative Styles and Motives on Outcome Variables

Predictor	Commitment	Well-being	Ethnic prejudice
Information-oriented style			
Step 1			
Gender	-.12*	-.29***	-.29***
Information-oriented style	.36***	.32***	-.10
Step 2			
Information-oriented style	.25***	.19**	-.07
Motives: Controlled - Information	-.20***	-.19***	.10
Motives: Autonomous - Information	.15*	.20**	-.04
Normative style			
Step 1			
Gender	-.05	-.24***	-.31***
Normative style	-.03	-.05	.22***
Step 2			
Normative style	.06	.04	.21**
Motives: Controlled – Normative	-.31***	-.26***	.07
Motives: Autonomous – normative	.24***	.14*	-.10

Note. Legend for gender: 1 = boys; 2 = girls.
*p < .05.   **p < .01. ***p < .001.

Parenting, Identity Styles, and Motives

Correlations between autonomy-supportive parenting, identity styles, and motives can also be found in Table 2. In line with Hypothesis 6, autonomy-supportive parenting was positively related to the information-oriented style and negatively to the normative and diffuse-avoidant styles. As predicted in Hypothesis 7, the controlled motives behind the information-oriented and normative styles correlated negatively with autonomy-supportive parenting, whereas the autonomous motives underlying these same styles correlated positively with this type of parenting. Against expectations, the latter correlation failed to reach significance for the normative style.

To examine associations between perceived autonomy-supportive parenting and motives, controlling for identity styles, and vice versa, we also computed a series of partial correlations. These partial correlations allow us to determine whether autonomy-supportive parenting is still related to the identity styles once associations between parenting and motives behind the identity styles are taken into account (and vice versa). These analyses, once again, could be performed for the information-oriented and normative styles only.

Partial correlations between autonomy-supportive parenting and the styles, controlled for both motives, were no longer significant ($r = .12$, $p = .06$, and $r = -.05$, $p = .40$ for the information-oriented and normative styles, respectively) suggesting that there is no unique association between

autonomy-supportive parenting and both identity styles once the motives underlying these styles were statistically controlled for. In the raw correlations, autonomy-supportive parenting was negatively related to controlled motives and positively to autonomous motives behind the information-oriented style. Partial correlations between autonomy-supportive parenting and the motives behind the information-oriented style, controlled for the other motive, remained significant ($r = -.19$, $p < .01$, and $r = .41$, $p < .001$ for controlled and autonomous motives, respectively). In the raw correlations, autonomy-supportive parenting was negatively related to controlled motives and unrelated to autonomous motives behind the normative style. Partial correlations between autonomy-supportive parenting and the motives behind the normative style, controlled for the other motive, remained significant ($r = -.27$, $p < .001$) for controlled motives and became significant ($r = .15$, $p < .05$) for autonomous motives. Together, these correlational analyses show that associations between autonomy-supportive parenting and the motives underlying the identity styles are more consistent and robust compared to associations between autonomy-supportive parenting and the identity styles as such. Across the two identity styles studied here, autonomy-supportive parenting was related to more autonomous and less controlled motives for adopting an identity style.

DISCUSSION

Past research on identity styles has focused mainly on the degree to which adolescents rely on different styles in exploring identity-relevant information, such as the information-oriented and normative identity styles. This study wanted to address the question why adolescents make use of these styles and thereby focused on controlled and autonomous motives behind the use of these identity styles. Several interesting findings emerged.

Motivational Profiles of the Information-Oriented and Normative Identity Styles

In line with our first hypothesis, the pattern of motivational correlates that characterized the information-oriented and the normative identity styles was quite different. The information-oriented style was uniquely undergirded by autonomous motives, whereas the normative style was undergirded by both controlled and autonomous motives at the correlational level. Follow-up analyses showed that a normative style was predominantly related to controlled (rather than autonomous) motives. On average, then, adolescents use an information-oriented style in an autonomous way whereas they use a normative style in a predominantly controlled way. However, these average associations do not preclude the possibility that there is substantial interindividual variability in the relative extent to which the information-oriented and normative identity styles are driven by autonomous and controlled motives. As

such, it remained important to examine how differences in motives behind both identity styles were related to a number of psychosocial outcomes.

Motives Behind Identity Styles and Adolescents' Psychosocial Development

In the present study, the information-oriented and normative styles related differently to the outcome variables. The information-oriented style was positively related to commitment and well-being whereas the normative style was only positively related to ethnic prejudice. All these associations held when controlling for the motives behind the use of the identity styles, suggesting that the type of identity style an adolescent employs to explore identity issues yields a unique association above and beyond the reasons why an adolescent relies on a particular style. These results showed that the information-oriented style as such predicted positive outcomes, whereas the normative style was related to a prejudiced orientation but did not relate to well-being and commitment.

The associations between motives behind one's identity styles and outcomes, however, were style-invariant. Specifically, regardless of one's specific identity style, autonomous motives behind one's style positively predicted commitment and well-being, whereas controlled motives behind one's identity style negatively predicted these outcomes. These findings indicated that both adolescents who engage in a process

of active exploration of identity-relevant information with a feeling of choice and adolescents who rely on their parents' norms with a feeling of choice have stronger commitments and show higher levels of well-being. By contrast, adolescents who adopt the information-oriented style out of parental pressure or out of a sense of internal compulsion or normative adolescents who feel pressured to adopt their parents' norms will have difficulties to come to commitments and will show low levels of well-being. These findings are in line with a central hypothesis in SDT (Ryan & Deci, 2000) stating that an autonomous regulation of behavior is an essential ingredient for individual's optimal development and well-being.

Interestingly, the motives behind the identity styles did not predict ethnic prejudice, which was not in line with our expectations. This finding suggests that features of the normative style per se, rather than variability in the motives underlying the normative style, are responsible for the association with prejudice. Those features could include the levels of need for structure and need for closure (Berzonsky & Adams, 1999) and the lower levels of openness to information, values, and experiences (Berzonsky & Sullivan, 1992) that are related to a normative style. The present study is a first attempt to examine the relative contribution of identity styles and motives for identity styles in the prediction of ethnic prejudice and it remains to be examined whether these findings can be replicated.

Autonomy-Supportive Parenting and the Motives Behind Identity Styles

The information-oriented style was positively related to autonomy-supportive parenting, whereas the normative style was negatively related to autonomy-supportive parenting. These findings were in line with the hypothesis that the flexible exploration of information-oriented adolescents takes root in a non-intrusive parenting climate, whereas the normative style, generally involving compliance to parental standards and a close-minded and rigid attitude to identity-relevant information, develops in a pressuring parenting environment. Partial correlations further demonstrated that autonomy-supportive parenting related positively to autonomous motives and negatively to controlled motives behind both styles, when controlling for these very styles. These findings were in line with previous research showing that autonomy-supportive parenting fosters a more autonomous and less controlled behavioral regulation (Grolnick et al., 1991; Soenens et al., 2007). This pattern of results suggests that autonomy-supportive parenting relates more strongly to the motivational dynamics behind the identity styles than to the identity styles as such. It is important to study these relations in future research.

Diffuse-Avoidant Style and the Lack of Clarity Regarding its Underlying Motives

Most of our hypotheses regarding the outcomes and presumed antecedents of the diffuse-avoidant style were confirmed. This style showed negative correlations with commitment, well-being, and autonomy-supportive parenting and a positive correlation with ethnic prejudice. However, the motives underlying our participants' use of this particular style were not examined in this first study on the motivational dynamics of identity styles, due to a lack of conceptual clarity regarding its motivational underpinnings. The motivational status of the diffuse-avoidant style has to be clarified further in future research. If this style effectively involves a goal-directed and motivated orientation, as may be surmised based on recent interpretations of this style (Berzonsky, in press), further attempts at the construction of an integrated measure of the motives underlying the style should be undertaken. The distinction between autonomous and controlled reasons behind the diffuse-avoidant style, as captured by such an integrated measure, could shed light on the two types of the related diffusion status (i.e., carefree diffusion and diffused diffusion, respectively; Luyckx, Goossens, Soenens, Beyers, & Vansteenkiste, 2005; Luyckx et al., 2008).

Limitations

There are a number of limitations to the design of this study. First, our sample comprised white and highly educated middle-adolescents only. Therefore, we cannot state with certainty that our findings generalize to other cultures, age periods, or populations with a more diverse educational background. Second, all measures in the study were self-report instruments. In future research, observational measures or multiple informants should also be included to assess identity styles. Third, due to its cross-sectional nature, our study cannot clarify the direction of effects in the associations among parenting, identity styles, and motives.

Conclusion

The present study fits in a broader movement in the literature towards integration of the identity and motivation literatures (Flum & Blustein, 2000). Two general conclusions can be drawn from our findings. First, the relations between the identity styles and the motives behind their use, the relations between the identity styles and the outcomes, and the relations between the identity styles and autonomy-supportive parenting were found to be style-bounded. Adolescents who use the information-oriented style do this mostly out of autonomous motives. They have strong commitments and show high levels of well-being and they perceive their parents as autonomy-supportive. In contrast, adolescents who use a normative identity style do this mostly

out of controlled motives. They display more prejudiced and intolerant attitudes and, on average, they perceive their parents as relatively more controlling. Second, the relations between the motives behind the identity styles and (a) psychosocial outcomes and (b) perceived parenting were found to be relatively style-invariant. Autonomous motives behind both identity styles studied here are related to stronger commitments, higher levels of well-being, and autonomy-supportive parenting. Controlled motives behind both identity styles are related to weaker commitments, low levels of well-being, and more controlled parenting. These findings indicate that it is important to study the antecedents and outcomes of both the identity styles as such and the motives behind their use.

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Chapter 5

Identity Styles and

Interpersonal Behavior

Identity Styles and Interpersonal Behavior in
Adolescence:
The Intervening Role of Empathy

Smits, I., Doumen, S., Soenens, B., Duriez, B., Luyckx, K., &
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ABSTRACT

This study examined the intervening role of empathy in the relations between identity styles (i.e., information-oriented, normative, and diffuse-avoidant styles) and interpersonal behaviors (i.e., prosocial behavior, self- and other-oriented helping, and physical and relational aggression). In a sample of 341 late adolescents, it was found that an information-oriented style relates to a more adaptive pattern of interpersonal behaviors, whereas a normative or a diffuse-avoidant identity style relate to a more maladaptive pattern of interpersonal behaviors. Empathy played an intervening role between on the one hand the information-oriented style and interpersonal behavior and on the other hand between the diffuse-avoidant style and interpersonal behavior. However, empathy did not play an intervening role between the normative style and interpersonal behavior. Implications for future research are discussed.

INTRODUCTION

Adolescence is a developmental period characterized by changes and challenges at different but interrelated levels, such as the development of self and identity, cognitive maturity, and interpersonal functioning. The formation of an integrated sense of personal identity is the primary developmental task during adolescence. An adolescent is expected to form a personal view on issues of occupation, values, philosophy, and religion (Erikson, 1968). At the cognitive level, advances in social cognition and developments towards higher-level moral reasoning give rise to increased consideration of multiple perspectives and empathy (e.g., Crick et al., 1999; Eisenberg & Fabes, 1998). The social context also changes during adolescence. Adolescents' friendships become more important, exclusive, and intense, and involve more intimate sharing and disclosure. The frequency of peer interactions is higher during adolescence because adolescents spend more time out of the direct supervision of adults (Hill & Holmbeck, 1986). On the positive side, these changes at the interpersonal level give rise to a higher incidence of prosocial behaviors (Fabes, Carlo, Kupanoff, & Laible, 1999). However, increased interaction with peers may also give rise to greater opportunities for displaying antisocial behavior (Lahey, Waldman, & McBurnett, 1999) and for a more frequent and sophisticated use of aggression (Yoon, Barton, & Taiariol, 2004).

Although it is generally known that, during adolescence, these developments in the personal, cognitive, and social domains are interconnected, relatively few studies have examined associations between variables that play a prominent role in each of these domains. Against this background, the present study adds to the literature on the relation between identity and interpersonal behaviors by testing an integrated model of relations among identity styles, empathy, and interpersonal behaviors. In the following paragraphs, we discuss each set of variables represented in this model and how they are hypothesized to be interrelated.

Berzonsky's Identity Style Model

Most previous research conceptualized personal identity formation in terms of the identity statuses. Marcia (1966) pointed out the importance of two key processes of identity formation: exploration of alternatives and commitment to choices. Based on these two dimensions, people can be assigned to one of four identity statuses: Achievement (high exploration/high commitment), Moratorium (high exploration/low commitment), Foreclosure (low exploration/high commitment), and Diffusion (low exploration/low commitment). According to Côté and Levine (1988), Marcia over-emphasized the commitment aspect, suggesting that there is something like a fully achieved identity (Bosma & Kunnen, 2001; Soenens & Luyckx, 2003). However,

Erikson (1968) stressed that identity development is a never-ending and dynamic developmental process. Therefore, other authors (e.g., Luyckx, Goossens, Soenens, & Beyers, 2006) emphasized the need to focus more explicitly on the identity exploration process. The present study will therefore focus on stylistic differences in the way adolescents approach the identity exploration task. These stylistic differences are conceptualized from the perspective of Berzonsky's (1990) identity style model.

An identity style refers to the strategy that an individual prefers to use in processing, structuring, utilizing, and revising self-relevant information (Berzonsky, 1990). Three different identity styles are distinguished: The information-oriented, the normative, and the diffuse-avoidant style. Adolescents who use an information-oriented style deal with identity issues by actively seeking out, processing, and utilizing identity-relevant information in order to make well-informed choices. In contrast, adolescents who use a normative style focus on the normative expectations and prescriptions held up by significant others and reference groups. Finally, adolescents who use a diffuse-avoidant style procrastinate personal decisions until they are forced to make a choice by pressuring situational demands.

Although Berzonsky's model clearly differs from Marcia's model, there are also some similarities. According to Berzonsky (1989), each identity status is associated with a specific identity style. People in the moratorium and achievement status would predominantly use an information-oriented identity style, people

in the foreclosure status would predominantly use a normative identity style, and people in the diffusion status would predominantly use a diffuse-avoidant identity style. These expected associations have been empirically confirmed (Berman, Schwartz, Kurtines, & Berman, 2001; Berzonsky & Niemeyer, 1994; Schwartz, Mullis, Waterman, & Dunham, 2000).

Until now, research has focused predominantly on the cognitive and intrapersonal correlates of identity styles at the expense of the interpersonal correlates and outcomes of identity styles. However, on the basis of Erikson's (1968) epigenetic principle – which states that the task of identity development lays the foundation for the resolution of the conflict of intimacy versus isolation during late adolescence and young adulthood – it can be expected that qualitative differences in the identity exploration process are relevant to the quality of adolescents' interpersonal behavior.

Identity Styles and Interpersonal Behaviors

Previous research on the relation between identity and interpersonal behavior primarily focused on a specific type of interpersonal behavior, such as prosocial behavior or relational aggression. In this study, we examined associations between the identity styles and a broad set of interpersonal behaviors encompassing both adaptive (i.e., prosocial) and potentially disruptive (i.e., aggressive) interpersonal behaviors.

Prosocial behavior. We expected the three identity styles to be differentially related to prosocial behavior. Prosocial behavior refers to voluntary and socially acceptable behavior which results in benefits for others (Eisenberg, 1982; Ma, Shek, Cheung, & Lee, 1996). We expected the information-oriented style to relate positively to prosocial behavior. Previous research found that adolescents in the achievement status – who are known to typically rely on information-oriented identity processing (Berzonsky, 1989) – have a strong focus on interpersonal connections, display high levels of moral reasoning (i.e., postconventional reasoning; Podd, 1972), and engage in more prosocial behaviors (Ma, Shek, Cheung, & Oi Bun Lam, 2000; Padilla-Walker, McNamara, Carroll, Madsen, & Nelson, 2008). We also expected a positive relation between the normative style and prosocial behavior. Adolescents who use a normative style focus on the normative expectations of significant others, thereby assigning high importance to socially accepted behavior. Consistent with this reasoning, it has been shown that adolescents in the foreclosure status exhibit high frequencies of prosocial behavior (Ma et al., 2000). In contrast, we expected the diffuse-avoidant style to relate negatively to prosocial behavior. Adolescents using the diffuse-avoidant style have been described as hedonistic and self-centered (Berzonsky, 2004) and such a self-absorbed orientation may limit their inclination to engage in prosocial behavior. Consistent with this reasoning, research found that adolescents in the diffusion status

tended to exhibit low frequencies of prosocial behavior (Ma et al., 2000; Padilla-Walker et al., 2008).

Traditionally, prosocial behavior has been conceptualized as a global construct, that is, as the personal tendency to exhibit a number of prosocial behaviors across contexts and motives (e.g., Rushton, Chrisjohn, & Frekken, 1981). In recent research, however, a distinction is made between different motives underlying prosocial behavior that translate into self-oriented and other-oriented helping (Roth, 2008). *Self-oriented helping* is defined as an egoistic type of helping behavior enacted for the sake of others' approval and appreciation. The helping behavior is not a goal in itself but a means to enhance one's own self-esteem. *Other-oriented helping* is defined as a helping behavior that is performed while focusing on the other's needs and inclinations and not with the expectation of receiving external rewards or avoiding externally produced aversive stimuli or punishments (Roth, 2008). Research has indicated that the distinction between both helping behaviors is useful. For instance, it was found that self-oriented helping related positively to feelings of internal compulsion to perform prosocial behavior. In contrast, other-oriented helping related positively to more mature and autonomous motives for performing prosocial behavior (Roth, 2008).

In this study, we expected the three identity styles to relate differentially to self-oriented and other-oriented helping. More specifically, we expected the information-oriented style to be

primarily related to the other-oriented type of helping. Adolescents using an information-oriented style tend to generally function in an autonomous manner, that is, they perceive their behavior as being freely chosen (Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2005), they explore their identity options in a more autonomous way (Smits, Soenens, Vansteenkiste, Luyckx, & Goossens, 2009), and have an open and unbiased outlook on life (Soenens, Duriez, & Goossens, 2005). It was expected that the openness associated with an information-oriented style would translate into opportunities to focus on the needs of others without being concerned about the judgment of others (Hodgins & Knee, 2002).

In contrast, we expected the normative style to be primarily related to the self-oriented type of helping. Adolescents using the normative style tend to generally function in a controlled manner, that is, they perceive their behavior as being influenced by external forces and demands or internalized imperatives (Soenens, Berzonsky, et al., 2005), explore identity options in a more controlled way (Smits et al., submitted), and have a closed-minded and defensive attitude towards others (Soenens, Duriez, et al., 2005). The controlled type of functioning associated with a normative style is thought to increase the likelihood of self-worth concerns and ego-involvement (Hodgins & Knee, 2002). Therefore, we expect normative

individuals to only help others to the extent that the helping behavior serves their ego.

Although a diffuse-avoidant style was expected to be on average negatively related to prosocial behavior, we expected that, to the extent that adolescents using a diffuse-avoidant style do engage in prosocial behavior, their prosocial behavior would be self-oriented in nature. Therefore, we hypothesized a positive relation between the diffuse-avoidant style and self-oriented helping. Diffuse-avoidant adolescents are thought to be oriented towards hedonistic cues such as popularity and reputation as a means to compensate for the emptiness and lack of direction in their identity (Berzonsky, 2004). Therefore, it seems plausible that these adolescents will only help others if this contributes to their reputation and popularity, and if this helps to impress others. Consistent with this reasoning, it was found that adolescents in the diffusion status only help others when they can benefit from public recognition (Padilla-Walker et al., 2008).

Antisocial behavior. We expected the identity styles to be differentially related to antisocial behaviors. Antisocial behavior refers to behavior that violates important norms or laws (Lahey et al., 1999). A subtype of antisocial behavior is aggressive behavior, which refers to behavior intended to harm and which is perceived as hurtful by the victim (Harré & Lamb, 1993). In this study, we focused (a) on physical aggression, such as fighting (Ma et al., 1996), and (b) on relational aggression,

which is a form of aggression that involves manipulation and attempts to damage other people's relationships (Crick & Grotpeter, 1995). Thus, we focused on two forms of antisocial behavior, that is, an overt and manifest type of aggression and a relatively more covert and insidious form of aggression.

We expected the information-oriented style to relate negatively to both physical and relational aggression. Adolescents using an information-oriented style are thought to adopt a responsible and constructive social orientation and research has indeed shown negative relations between this identity style and manifestations of aggression (Adams et al., 2001). We expected that a normative style may relate positively to relational aggression. It has been argued that normative individuals have a low tolerance for social information that is discrepant with their self-structures (Berzonsky, 1990). To avoid such discrepant social information, normative individuals might attempt to control others in such a way that other people do and say those things that are consistent with normative individuals' preferences and beliefs. It is not likely, however, that normative individuals manipulate and control others overtly, that is, by using physical aggression because they are highly concerned with interpersonal rules and sanctions. The social norms and conventions endorsed by these adolescents may thus reduce the risk of physical aggression (Adams et al., 2001). However, adolescents using a normative style may use a more subtle and

insidious way of manipulating others, such as relational aggression.

We expected the diffuse-avoidant style to relate positively to both physical and relational aggression. Adolescents using a diffuse-avoidant style are at risk of developing an identity that is experienced as empty and void. This emptiness can result in self-destructive behaviors associated with harmful risk behaviors (Baumeister, 1991). In line with the frustration-aggression hypothesis (Berkowitz, 1989), it could thus be argued that aggressive behaviors represent a derivative mechanism to compensate for a sense of emptiness. Consistent with this line of reasoning, research found that adolescents with a less mature level of identity may be prone to antisocial behavior such as aggression and delinquency (e.g., Ferrer-Wreder, Palchuk, Poyrazli, Small, & Domitrovich, 2008). Adams et al. (2001) also established a positive association between the diffuse-avoidant style and antiscocial behavior.

Given the hypotheses about associations between identity styles and interpersonal behaviors developed here, it was also deemed important to investigate underlying mechanisms that possibly link the three identity styles to their specific interpersonal outcomes. As we argue in the following paragraph, it is both theoretically and empirically plausible that adolescent empathy may play an intervening role in these associations.

The Intervening Role of Empathy

Empathy refers to both cognitive and affective reactions of an individual to the observed experience and emotional state of others (Davis, 1983). In line with previous research, this study combines two dimensions of empathy, that is, perspective taking and empathic concern (Carlo, Roesch, & Melby, 1998; Laible, Carlo, & Raffaelli, 2000; Laible, Carlo, & Roesch; 2004; Soenens, Duriez, Vansteenkiste, & Goossens, 2007). Perspective taking is a cognitive dimension of empathy and refers to the tendency to spontaneously adopt the psychological point of view of others. Empathic concern is an affective dimension of empathy which refers to other-oriented feelings of concern for someone in need (Davis, 1983). Similar to identity formation and interpersonal behaviors, these two dimensions of empathy become more important and develop towards higher levels of maturity during adolescence (Hoffman, 1984).

It has been argued that identity development is related to empathy development. Higher levels of identity development are thought to relate to highly developed empathic skills, such as non-egocentric thinking and internalized moral controls (Loevinger, 1976). This hypothesis was confirmed in research demonstrating that adolescents with higher levels of ego identity status (i.e., Achievement or Moratorium) report higher levels of empathy (Carlozzi, Gaa, & Liberman, 1983; Erlanger, 1998; Pecukonis, 1990).

In line with previous research (Soenens, Duriez, et al., 2005), we expected that the information-oriented style would relate positively to empathy. Adolescents using an information-oriented identity style show a high degree of cognitive complexity, a need to engage in cognitive activities, and a willingness to consider alternative ideas (Berzonsky & Ferrari, 1996; Berzonsky & Sullivan, 1992). They rely predominantly on mentally effortful reasoning and vigilant decisional strategies (Berzonsky, 2007; Berzonsky & Ferrari, 1996).

We expected the normative style to relate negatively to empathy. Previous research found that adolescents in the foreclosure status were less likely to integrate information from multiple perspectives and more likely to view others in a stereotyped and biased fashion (Erlanger, 1998; Orlofsky, Marcia, & Lesser, 1973; Read, Adams, & Dobson, 1984; Slugoski, Marcia, & Koopman, 1984). Adolescents using the normative style are rigid and closed in their functioning and, above all, strive to avoid situations and information that may threaten their beliefs. Given that normative individuals want to protect themselves from having to deal with dissonance-inducing emotional experiences, they are unlikely to display genuine types of empathy. To the extent that they do experience other people's emotional problems and distress they are likely to feel nervous, tense, and distressed because this represents a threat to their self-views.

In line with previous research (Soenens, Duriez, et al., 2005), we also expected the diffuse-avoidant style to relate negatively to empathy. Adolescents using a diffuse-avoidant identity style operate in a predominantly emotion-focused way with limited concern about rational considerations and long-term logical implications (Berzonsky, 2007). They perceive their actions as being influenced by factors over which they have limited intentional control and, as a consequence, often feel overwhelmed and unable to regulate experiences effectively (Soenens, Berzonsky, et al., 2005).

Numerous studies have also documented the important implications of empathy for interpersonal behavior and social development. Based on the literature on empathy and social functioning, we expected empathy to relate positively to prosocial behavior and to other-oriented helping and negatively to self-oriented helping, physical aggression, and relational aggression. Both empathic concern and perspective taking appear to be important prosocial behavior motivators (Batson, 1991; Eisenberg, 2000; Hoffman, 1989). Driven by empathic concern and perspective taking, individuals would attempt to alleviate negative emotions in others in an altruistic and other-oriented fashion. Empathy has also been shown to decrease the probability of different types of antisocial behavior, such as physical, verbal, and relational aggression (Eisenberg, 2000; Feshbach, 1987; Gini, Albiero, Benelli, & Altoè, 2007; Kaukiainen et al., 1999).

In sum, the general aim of this study was to examine empathy as an intervening variable in associations between identity styles and interpersonal behavior.

METHOD

Participants and Procedure

The sample consisted of 343 late adolescents who were undergraduate psychology students from a large university in the Dutch-speaking part of Belgium. Two participants were excluded because they showed missing data. The mean age of the participants was 18 years ($SD = 1.62$) and 80 % was female. Of the participants, 77% came from intact families, 19% had divorced parents, and 4% of the adolescents came from a family in which one of the parents had deceased. Almost all participants (96%) had the Belgian nationality. In accordance with the rules of the Internal Review Board of the university where this study was conducted, active informed consent was obtained from all adolescents. Participants completed all the measures in group sessions. The first author supervised all of these sessions, which took no longer than 50 minutes.

Measures

All measures used were scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Identity styles. Participants completed the Dutch version of the Identity Style Inventory - Version 4 (ISI-4; Luyckx, Lens,

Smits, & Goossens, in press; Smits et al., 2009). Cronbach's alpha for the information-oriented scale was .79 (7 items, e.g., "When facing a life decision, I try to analyze the situation in order to understand it"), for the normative scale .67 (8 items, e.g., "I strive to achieve the goals that my family and friends hold for me"), and for the diffuse-avoidant scale .77 (9 items, e.g., "I 'm not sure where I'm heading in my life; I guess things will work themselves out"). Table 1 shows the intercorrelations between the scales of the ISI-4. The information-oriented style was unrelated to the normative style and showed a weak negative correlation with the diffuse-avoidant style. The correlation between the normative and the diffuse-avoidant style was weak and positive.

Table 1

Correlations Among All Study Variables

Scale	1	2	3	4	5	6	7	8
1. Information-oriented style								
2. Normative style	.00							
3. Diffuse-avoidant style	-.33***	.19***						
4. Empathy	.36***	.04	-.29***					
5. Prosocial behavior	.21***	.05	-.12*	.51***				
6. Other-oriented helping	.37***	-.06	-.19***	.45***	.39***			
7. Self-oriented helping	.00	.21***	.25***	-.23***	-.11*	-.10		
8. Physical aggression	-.17***	.02	.26***	-.38***	-.30***	.23***	-.20***	
9. Relational aggression	-.14**	.22***	.31***	-.40***	-.26***	.30***	-.20***	.45***

$* p < .05. ** p < .01. *** p < .001.$

Empathy. Participants completed the empathic concern and perspective taking subscales from the Dutch version (Duriez, 2004) of the Interpersonal Reactivity Index (IRI; Davis, 1983). Cronbach's alpha for empathic concern was .75 (7 items, e.g., "I often have tender, concerned feelings for people less fortunate than me") and for perspective taking .76 (7 items, e.g., "I sometimes try to understand my friends better by imaging how things look from their perspective"). Preliminary correlational analysis indicated that the empathic concern and perspective taking scales were significantly interrelated ($r = .28$, $p < .001$). Because perspective taking and empathic concern are theoretically and empirically related (Davis, 1983), an empathy scale was formed by averaging the scores on both scales (see also Carlo et al., 1998; Laible, et al., 2000, 2004). Cronbach's alpha for the total empathy score was .78.

Interpersonal behavior. Prosocial behavior was measured with the Prosocialness Scale for Adults (PSA; Caprara, Steca, Zelli, & Capanna, 2005). The scale contains 6 items (e.g., "I try to help others"). Cronbach's alpha was .80. To measure the two helping orientations, that is, self- and other-oriented helping, a questionnaire that was recently developed and validated by Roth (2008) was administered. Cronbach's alpha for the self-oriented helping scale (4 items, e.g., "When I am helping another person, I boast about it") was .64, and for the other-oriented helping scale .66 (4 items, e.g., "When I help someone else, I try to be attentive to his or her needs"). These two scales were unrelated

(see Table 1). Participants completed the 6 items (e.g., "I am mean to other people") of the physical aggression subscale as found in the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach, 1991; Verhulst, Van der Ende, & Koot, 1996). Cronbach's alpha was .78. Participants also completed the 6 items (e.g., "When I am angry with others, I give them the silent treatment") of the Relational Aggression Scale (RAS; Werner & Crick, 1999). Cronbach's alpha was .72. Prosocial behavior was positively related to other-oriented helping, and negatively to self-oriented helping, physical aggression, and relational aggression. Other-oriented helping was not correlated to self-oriented helping and negatively related to physical aggression and relational aggression. Self-oriented helping was positively correlated to physical aggression and relational aggression. Physical aggression and relational aggression were positively correlated. All correlations among the measures of interpersonal behavior were weak to moderate.

RESULTS

Preliminary Analyses

Table 2 presents the means and standard deviations for the study variables. We performed a series of ANOVAs to examine whether the study variables differed by gender. As indicated in Table 2, gender was significantly related to the information-oriented style, the diffuse-avoidant style, empathy, prosocial behavior, self-oriented helping, other-oriented helping, and

physical aggression. Specifically, girls reported higher levels of the information-oriented style, empathy, prosocial behavior, and other-oriented helping. In contrast, boys reported higher levels of the diffuse-avoidant style, self-oriented helping, and physical aggression. These findings were in line with previous research that found that females score higher than males on an information-oriented style (e.g., Smits, Soenens, Luyckx, Duriez, Berzonsky, & Goossens, 2008), on empathy dimensions (e.g., Davis & Oathout, 1992; Erlanger, 1998), and on prosocial behavior (e.g., Padilla-Walker et al., 2008). Conversely, males score higher on the diffuse-avoidant style (e.g., Smits et al., 2008) and engage more often in antisocial and overtly aggressive behaviors compared to females (e.g., Adams et al., 2001). Consequently, we controlled for gender in the primary analyses because it was the only background variable that was systematically related to the study variables.

Table 2

Descriptive Statistics for the Full Sample and Separately by Gender

Scale	Full Sample		Boys	Girls	Gender difference	
	Mean(*SD*)	Observed Range	*Mean*(*SD*)	*Mean*(*SD*)	*F* (1,339)	η^2
Information-oriented style	4.05 (.51)	2.29 - 5.0	3.93 (.46)	4.07 (.52)	-4.07*	.01
Normative style	2.58 (.50)	1.25 - 4.0	2.52 (.56)	2.59 (.48)	0.97	.00
Diffuse-avoidant style	2.54 (.60)	1.0 - 4.33	2.72 (.67)	2.50 (.57)	2.58**	.02
Empathy	3.58 (.46)	1.93 - 4.93	3.31 (.49)	3.65 (.43)	-29.24***	.08
Prosocial behavior	3.98 (.48)	1.67 - 5.0	3.81 (.57)	4.02 (.45)	-10.63***	.03
Other-oriented helping	3.86 (.52)	2.0 - 5.0	3.68 (.52)	3.90 (.52)	-10.14***	.03
Self-oriented helping	2.31 (.59)	1.0 - 3.75	2.45 (.72)	2.28 (.56)	4.65*	.01
Physical aggression	1.35 (.39)	1.0 - 3.67	1.56 (.54)	1.30 (.33)	23.52***	.06
Relational aggression	1.85 (.57)	1.0 - 3.67	1.94 (.60)	1.82 (.57)	2.37	.01

Note. The theoretical range was 1 to 5 in all cases.

* $p < .05$. ** $p < .01$.*** $p < .001$.

Correlation Analyses

Correlations among all study variables can be found in Table 1. As regards the correlations between the identity styles and interpersonal behavior, the information-oriented style, as expected, was positively related to prosocial behavior and other-oriented helping and negatively to physical and relational aggression. Again, in line with expectations, the normative style was positively related to self-oriented helping and relational aggression. However, the expected positive correlation with prosocial behavior and the negative correlation with physical aggression were not found. As expected, the diffuse-avoidant style was negatively related to prosocial behavior and other-oriented helping and positively to self-oriented helping, physical aggression, and relational aggression. As regards the correlations between the identity styles and empathy, the information-oriented style, as expected, was positively related to empathy and the diffuse-avoidant style was negatively related to empathy. The expected negative relation between the normative style and empathy was not found. Finally, regarding the correlations between empathy and interpersonal behavior, empathy, as expected, was positively related to prosocial behavior and other-oriented helping and negatively to self-oriented helping, physical aggression, and relational aggression.

Primary Analyses

Mplus Version 4.0 (Muthén & Muthén, 2006) was used to examine whether the pathways from the identity styles to the interpersonal behaviors were mediated by empathy. The models were evaluated by means of several fit indices: the Satorra-Bentler scaled chi-square statistic (SBS-χ^2; Satorra & Bentler, 1994), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), the Comparative Fit Index (CFI; Bentler, 1990), and the Standardized Root Mean Square Residual (SRMR; Kline, 2005). The SBS-χ^2 adjusts, usually downward, the obtained model chi-square statistic based on the degree of non-normality. This correction allows for structural equation modeling with non-normal data. The value of the adjusted χ^2 statistic should be as small as possible (Hu, Bentler, & Kano, 1992). The RMSEA is a parsimony-adjusted index which corrects for model complexity. Values of the RMSEA below .05 indicate good fit, values between .05 and .08 indicate reasonable fit, and values above .10 indicate poor fit (Browne & Cudeck, 1993). The CFI assesses the relative improvement in fit of the researcher's model compared with a baseline model (Kline, 2005). Values above .90 indicate a good fit of the model (Hu & Bentler, 1999). The SRMR is a badness-of-fit index. Values below .10 indicate a good fit (Kline, 2005).

We followed the procedure recommended by Holmbeck (1997) to test for mediation. Specifically, the following three models were compared: (a) A direct effects model (Model A)

including the identity styles as predictors of the interpersonal behaviors, (b) a full mediation model (Model B) in which the identity styles and the interpersonal behaviors are indirectly related through empathy, and (c) a partial mediation model (Model C) including both direct and indirect paths.

First, the direct effects model (Model A) was tested. This model was saturated, and, hence, provided a perfect fit to the data. Eight direct paths (i.e., from the information-oriented style to self-oriented helping, physical aggression, and relational aggression, from the normative style to prosocial behavior, other-oriented helping, and physical aggression, and from the diffuse-avoidant style to prosocial behavior and other-oriented helping) were non-significant and were removed from the model. The resulting model had an excellent fit: SBS-χ^2 (8) = 9.23, p = .32; RMSEA = .02; CFI = 1.00; SRMR = .02). The information-oriented style had a positive effect on prosocial behavior (β = .18, p < .001) and other-oriented helping (β = .35, p < .001). The normative style had a positive effect on self-oriented helping (β = .18, p < .001) and relational aggression (β = .18, p < .001). The diffuse-avoidant style had a positive effect on self-oriented helping (β = .20, p < .001), physical aggression (β = .22, p < .001), and relational aggression (β = .25, p < .001). All these findings were in line with expectations.

Second, empathy was included as a mediator in a full mediational model (Model B). This model did not provide an adequate fit to the data: SBS-χ^2 (15) = 75.80, p < .001; RMSEA

= .11; CFI = .88; SRMR = .06). The path from the normative style to empathy was not significant and was removed from the model, leading to a more parsimonious model (Bentler & Mooijaart, 1989) without indirect effects from normative style to interpersonal behaviors (SBS-χ^2 (16) = 75.44, p < .001; RMSEA = .10; CFI = .89; SRMR = .06). The SBS-χ^2 difference test yielded no significant difference between Model B and the trimmed Model B, SBS-χ^2 $_{diff}$ (1) = 0.29, p = .59. For reasons of parsimony, then, this particular arrow linking the normative style to empathy could be removed from the model.

Third, a partial mediation model (Model C) was tested in which the significant direct paths from the identity styles to the interpersonal behaviors obtained in the trimmed Model A were included in the trimmed Model B. The fit of this model was excellent: SBS-χ^2 (9) = 9.95, p = .35; RMSEA = .02; CFI = 1.00; SRMR = .02. The SBS-χ^2 difference test revealed that this model fitted the data significantly better than the trimmed Model B, SBS-χ^2 $_{diff}$ (7) = 63.77, p < .001. The non-significant direct path from the information-oriented style to prosocial behavior was trimmed from the model, leading to a more parsimonious model (SBS-χ^2 (10) = 10.62, p = .39; RMSEA = .01; CFI = 1.00; SRMR = .02). The SBS-χ^2 difference test revealed no significant difference between Model C and the trimmed Model C, SBS-χ^2 $_{diff}$ (1) = .63, p = .42.

According to Holmbeck (1997), two types of intervening effects can be distinguished, that is, mediated effects and

indirect effects. Mediation is evident when there is an initial significant relation between the independent and dependent variable that is totally (full mediation) or substantially (partial mediation) reduced after taking the intervening variable into account. An indirect effect is evident when there is no initial relation but the independent variable has an effect on the dependent variable through the intervening variable. Sobel's (1982) *z*-test can be used to indicate whether the indirect effects are significant. First, empathy fully mediated the relation between the information-oriented style and prosocial behavior. The initial direct path from the information-oriented style to prosocial behavior of .18 disappeared after empathy was taken into account ($z = 4.39$, $p < .001$). Second, some effects of the identity styles on the interpersonal behaviors were partially mediated by empathy. The initial direct path from the information-oriented style to other-oriented helping was reduced from .35 to .23 and the indirect effect of the information-oriented style on other-oriented helping through empathy was significant ($z = 3.70$, $p < .001$). The initial direct path from the diffuse-avoidant style to physical aggression was reduced from .22 to .16 and the indirect effect of the diffuse-avoidant style on physical aggression through empathy was significant ($z = 2.39$, $p < .05$). The initial direct path from the diffuse-avoidant style to relational aggression was reduced from .25 to .18 and the indirect effect of the diffuse-avoidant style on relational aggression through empathy was significant ($z = 2.73$, $p < .01$).

Although the initial direct path from the diffuse-avoidant style to self-oriented helping was reduced from .20 to .17, the indirect effect through empathy was non-significant in the final model ($z = 1.84$, ns). Third, there were indirect effects through empathy from the information-oriented style on self-oriented helping ($z = -2.43$, $p < .05$), physical aggression ($z = -3.40$, $p < .001$), and relational aggression ($z = -3.98$, $p < .001$). There were indirect effects through empathy from the diffuse-avoidant style on prosocial behavior ($z = -2.77$, $p < .001$) and other-oriented helping ($z = -2.68$, $p < .01$). Fourth, for the normative style, empathy was not an intervening variable. The normative style had direct effects only on self-oriented helping ($\beta = .18$, $p < .01$) and relational aggression ($\beta = .18$, $p < .001$). Figure 1 gives a graphical presentation of the final model. For the sake of simplicity, the associations among the identity styles (left hand side of the figure) and among the measures of prosocial and antisocial behavior (right hand side of the figure), which were an integral part of all models tested, were not included in this graphical representation.
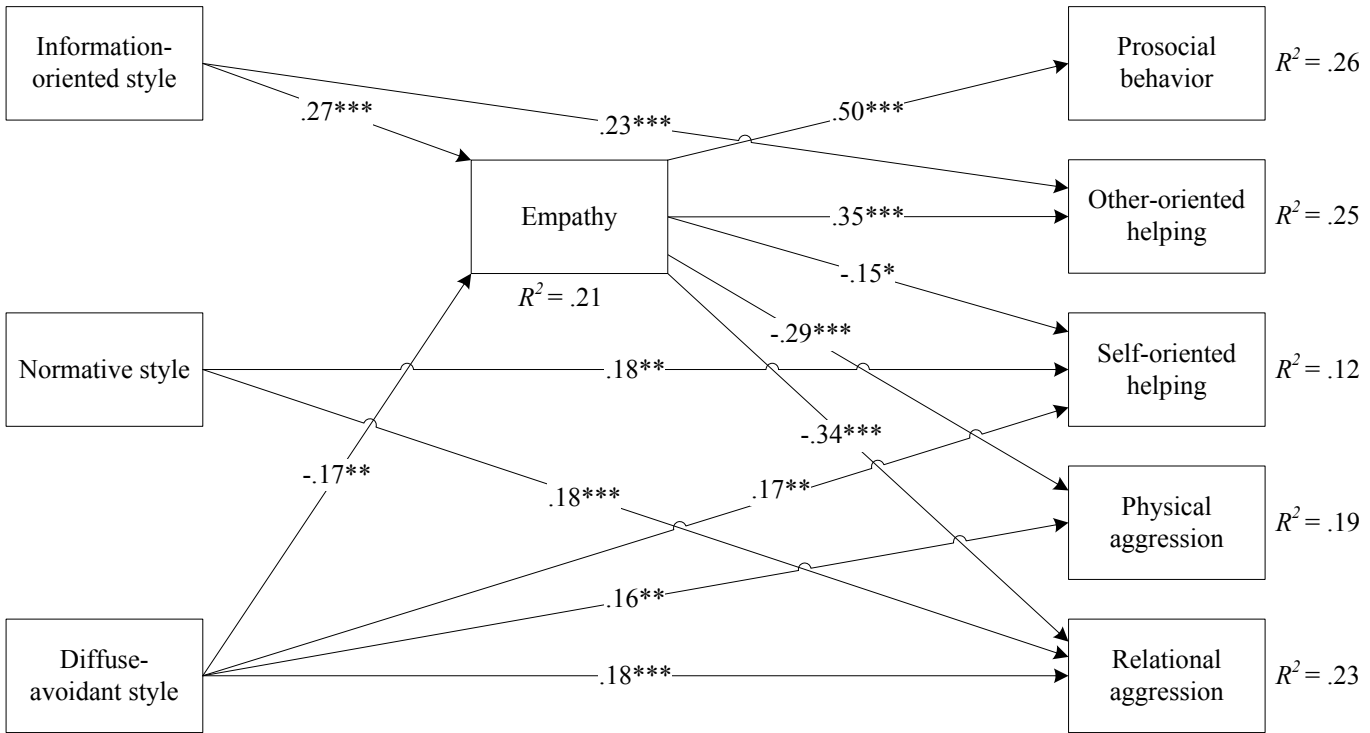
Figure 1. Final model linking the identity styles to the interpersonal behaviors through empathy.

* $p < .05$. ** $p < .01$. *** $p < .001$.

DISCUSSION

This study added to the literature on the relation between identity and interpersonal behaviors in three ways. First, previous research about the relation between identity and interpersonal behaviors focused on identity in general or used the identity status model (Marcia, 1980), whereas the focus in the present study was on the concept of identity styles. Second, previous research mostly dealt with just a single type of interpersonal behavior, whereas in the present study multiple types of interpersonal behaviors were included. Third, we examined for the first time in the literature the possible intervening role of empathy in the relation between identity styles and interpersonal behaviors.

Direct Relations Between Identity Styles and Interpersonal Behaviors

As expected, adolescents using the information-oriented style were found to be characterized by an adaptive pattern of interpersonal behaviors. They scored high on prosocial behavior and other-oriented helping. These results can be explained by the open attitude of adolescents with an information-oriented style (Soenens, Duriez, et al., 2005). Openness leads to greater honesty in interpersonal interactions and less fear of other's judgement (Hodgins & Knee, 2002).

Adolescents using a normative style were found to be characterized by a more maladaptive pattern of interpersonal behaviors. First, the normative style did not relate to prosocial behavior, although this was expected based on previous research with the foreclosure status. A possible explanation can be that adolescents using a normative style will only engage in prosocial behavior towards people who are confirming their thoughts and values. The theory of Schwartz (1992), who defines values as desirable, abstract goals that apply across situations, contexts, and time, can be useful to describe the differences in results between the information-oriented and the normative style regarding prosocial behavior. Values serve as guiding principles in people's lives, as criteria they use to select and justify actions and to evaluate people and events. Two values that promote the welfare of others are important for our findings, that is, universalism and benevolence. Universalism refers to understanding, tolerance, and concern for the welfare of all people, whereas benevolence refers to preserving and enhancing the welfare of people to whom one is close in everyday interactions. It is likely that adolescents using the information-oriented style will be more concerned for the welfare of all people because of their more open attitude and thus score higher on universalism. Adolescents using the normative style, on the contrary, will be more concerned for people that confirm their thoughts to protect their self-structure and thus score higher on benevolence. The items of the measure

of prosocial behavior used in this study refer more to people in general than to people to whom one is close in everyday interactions. This can explain why the information-oriented style was positively related to prosocial behavior whereas no relation was found with the normative style. A suggestion for future research is to specify the items about prosocial behavior for people to whom one is close in everyday interactions and with whom one shares the same values and beliefs. If such measures were used, we would expect the normative style to relate positively to prosocial behavior.

Second, if adolescents who use the normative style help other people, they do this more for the sake of other's approval and appreciation. As mentioned in the introduction, these adolescents tend to generally function in a controlled manner, which can lead to greater attention to the self at the expense of the needs of others (Hodgins & Knee, 2002).

Third, adolescents using the normative style tend to use relational aggression, a more subtle and insidious way of manipulating others, rather than physical aggression which is a more overt form of aggression. Previous research found that adolescents using a normative style score high on right-wing authoritarianism which generates self-protective, defensive motivational needs for social control and security (Duckitt, 2001; Soenens, Duriez, et al., 2005). Authoritarians seek social interactions which they can manipulate and control and that are consistent with their rigid thoughts (Altemeyer, 1981). Also

adolescents using the normative style are closed to information that may threaten hard-core aspects of the self such as values and belief systems (Berzonsky, 1990; Berzonsky & Sullivan, 1992). It seems that relational aggression is used both by normative adolescents and authoritarians to create an interpersonal environment in which only rules of their own belief system are obeyed.

Adolescents using a diffuse-avoidant identity style are characterized by a maladaptive pattern of interpersonal behaviors. They tend to be physically and relationally aggressive and if they perform prosocial behavior it is self-oriented in nature. As explained in the introduction, the emptiness and the lack of direction in their identity formation (Berzonsky, 2004) that characterizes these adolescents can lead to this pattern of interpersonal behaviors.

The Intervening Role of Empathy

The relations between the information-oriented style and both prosocial behavior and other-oriented helping were at least partially mediated by empathy. Through their sophisticated level of cognitive functioning, adolescents using an information-oriented style are able to react to other people with empathy, which in turn can lead to more prosocial behavior and other-oriented helping. In spite of the absence of a direct relation, the information-oriented style was found to relate indirectly to less self-oriented helping, physical aggression, and relational

aggression through its positive effect on empathy. These indirect effects suggest that empathy can inhibit or reduce antisocial behavior. In the literature (Evans, Heriot, & Friedman, 2002), two different mechanisms are presumed to underly these effects. First, the more adolescents can take and appreciate the victim's perspective, the more this perspective can be understood and tolerated. This makes the adoption of antisocial behavior less likely (Feshbach, 1978). Second, the more adolescents show empathic concern, the more the victim's pain will be experienced and shared. Adolescents will try to avoid the emotional stress caused by the situation or will try to reduce the victim's suffering, and will therefore inhibit their own antisocial behavior (Eisenberg & Fabes, 1998).

The opposite pattern was found for the diffuse-avoidant style. Through their more immature and emotion-focused way of functioning, adolescents using a diffuse-avoidant style are less able to focus on other people's perspectives and needs and will therefore react with less empathy. That way, these adolescents are more likely to use physical and relational aggression in relation to others. In spite of the absence of a direct relation, the diffuse-avoidant style was found to relate indirectly to less prosocial behavior and other-oriented helping through its negative effect on empathy.

No relation was found between the normative style and empathy. Therefore, empathy could not be considered as a possible intervening variable between the normative style and

the interpersonal behaviors. Possibly, in line with the reasoning developed for prosocial behavior, adolescents using a normative style may only react with empathy towards people who are confirming their thoughts.

Suggestions for Future Research

Some limitations of the design of this study must be mentioned. First, all measures were self-report instruments. In future research, observational measures or multiple informants should also be included to assess, for instance, the interpersonal behaviors. Second, the sample consisted primarily of Caucasian Dutch-speaking female psychology students. The question is whether the findings can be generalized to males, and other populations of more diverse educational and ethnic background. Third, due to its cross-sectional nature, our study cannot clarify the direction of effects in the associations between identity styles, empathy, and interpersonal behavior. For instance, in this study empathy was seen as an outcome of identity exploration. However, Erikson (1980) observed that identity development requires the capacity to observe the self in a social context. Therefore, adolescents must utilize all of their cognitive and affective resources to synthesize their identity and define their role in society. Social perspective taking, that is, a complex form of cognitive empathy, could enhance identity by providing multiple perspectives or could lead to role confusion in the

absence of cognitive strategies to utilize those same multiple perspectives (Enright & Deist, 1979).

Despite these limitations, the present study found clear associations between the three identity styles and interpersonal behaviors. Stronger reliance on the information-oriented style led to increased empathy which, in turn, gave rise to stronger prosocial behavior and lower aggression. The mirror image of these results was observed for the diffuse-avoidant style, with increased use of this style associated with lower prosocial behavior and greater aggression through lower empathy. More pronounced use of the normative style, by contrast, was directly associated with higher scores for self-oriented helping and relational aggression (with no intervening role for empathy).

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Chapter 6

Identity Styles and Intimacy

Identity and Intimacy During Adolescence:
The Intervening Role of Attachment to Friends

Smits, I., Doumen, S., Luyckx, K., Duriez, B., Vanhalst, J., & Goossens, L. *Manuscript submitted for publication.*

ABSTRACT

This study examined the intervening role of attachment to friends in the relation between identity styles (i.e., information-oriented, normative, and diffuse-avoidant styles) and intimacy (i.e., friendship quality and loneliness). In a sample of 343 late adolescents, an information-oriented style was positively related to friendship quality, whereas a diffuse-avoidant identity style was positively related to loneliness. There were no direct relations between the normative style and intimacy. Attachment to friends (i.e., attachment avoidance and attachment anxiety) represented an important intervening variable that could explain the relationships between identity styles and intimacy in four ways. First, attachment avoidance and attachment anxiety fully mediated the relation between the diffuse-avoidant style and loneliness. Second, the effect of the information-oriented style on friendship quality was partially mediated by attachment avoidance. Third, there were indirect effects through attachment avoidance from the information-oriented style on loneliness and from the diffuse-avoidant style on friendship quality. Fourth, there were indirect effects through attachment anxiety from the normative style on loneliness and friendship quality. Implications for future research are discussed.

INTRODUCTION

Adolescence is a period of intensive developmental changes in different areas. Adolescents face the challenge of establishing a personalized sense of identity allowing them to tackle the many challenges they are facing on the road to adulthood (Erikson, 1968). By late adolescence, relationships need to be formed in which peers serve as attachment figures (Buhrmester, 1992). Adolescents increasingly turn to peers as attachment figures, so that attachment needs can be met while simultaneously establishing autonomy in the relationship with parents (Steinberg, 1990). This development of peer relations is characterized by an emerging capacity for adult-like intimacy and supportiveness (Hartup, 1992).

The present study focuses on three closely related constructs, stemming from different but partially overlapping perspectives: Identity, attachment, and intimacy (Arseth, Kroger, Martinussen, & Marcia, 2009; Pittman, Keiley, Kerpelman, & Vaughn, 2009). Both attachment and intimacy have in common that they refer to styles of relating to others. Whereas attachment theory deals with representations of relationships, intimacy deals with the capacity for relatedness. Hence, whereas attachment relates to emotional security, intimacy relates to identity (Erikson, 1968). Although intimacy styles, based on identity, and attachment styles are thought to be mutually determined and reciprocally enhancing (Marcia, 2006), little empirical research has

combined these three constructs. The present study tries to fill this gap by testing an integrated model of relations among identity styles, attachment to friends, and intimacy. We now discuss each set of variables represented in this model and their hypothetical interrelations.

Identity Development During Adolescence

Erikson (1968) conceptualizes the life cycle as a series of critical periods of development (eight in all) involving bipolar conflicts that must be resolved before one can proceed unhindered to the next stage. The fifth stage is identity versus role confusion which comes to the fore during adolescence, the period in which the necessary intellectual, emotional, physical, and societal factors emerge to allow for identity issues to be dealt with. Adolescents construct their identities in the context of other developmental demands and role transitions typical for their age, such as those related to future education, occupation, peer and intimate relationships. A sense of identity can hence be defined as the self-constructed dynamic organization of drives, abilities, beliefs, and personal history into a coherent self that guides the unfolding of the adult life course.

In the present study, identity is conceptualized in terms of socio-cognitive identity styles (Berzonsky, 1989, 1990). An identity style refers to the strategy an individual prefers to use in order to process, structure, utilize, and revise self-relevant information. Three different identity styles are distinguished: An

information-oriented, a normative, and a diffuse-avoidant style. Information-oriented individuals deal with identity issues by actively seeking out, processing, and utilizing identity-relevant information in order to make well-informed choices, which should result in a well-differentiated and well-integrated identity structure. Normative oriented individuals focus on the normative expectations and prescriptions held up by significant others and reference groups, which is likely to result in an identity structure that is characterized by conservative and inflexible attitudes. Finally, diffuse-avoidant oriented individuals procrastinate identity-related decisions until situational demands force a choice onto them, which is likely to result in a fragmented and loosely integrated identity structure.

Intimacy Development During Adolescence

According to Erikson (1968), after dealing with these identity issues, people face the next stage, characterized by a new conflict between intimacy and isolation. Intimacy implies the fusion of identities without losing one's own personalized identity. Put differently, intimacy refers to the willingness to participate in a supportive, tender relationship without losing oneself in that relationship. Intimacy, therefore, refers to the presence of close relationships with male and female friends, sufficient depth in peer relations, and/or the presence of an enduring committed sexual relationship. According to Erikson's developmental scheme, the achievement of an identity is both a

precursor to and a prerequisite for establishing intimate relationships in adulthood (Orlofsky, Marcia, & Lesser, 1973). However, during the past two decades, theory and research have suggested substantial interplay between or overlap of identity and intimacy during late adolescence (e.g., Montgomery, 2005). Indeed, primary relationships with peers during adolescence can prepare young people for the ability to have high-quality and long-term intimate relationships, characterized by trust and mutuality, in adulthood (Adams & Archer, 1994; Josselson, 1996). In the present study, which focuses on late adolescents, we investigate the relation between identity styles and intimacy in peer relations, as indicated by both friendship quality and (absence of) loneliness.

Optimally, adolescents desire to engage in close, warm, communicative, and committed interactions, based on a solid sense of self (Montgomery, 2005). Therefore, friendships are very important because they are voluntary, intimate, and dynamic relationships between two adolescents founded on cooperation and trust (Gifford-Smith & Brownell, 2003). Unfortunately, some adolescents are faced with personal, social, and environmental obstacles to the development of mature intimacy and develop a tendency to be isolated, lonely, self-absorbed, or hesitant to commit to close friendships (Winstanley, Meyers, & Florsheim, 2002). Loneliness can be defined as a subjective distressing and unpleasant state in which individuals perceive deficiencies in their intimate and social

relationships (Larose, Guay, & Boivin, 2002). More specifically, loneliness refers to feelings of perceived social isolation and deprivation in relation to others, which coincide with either qualitative or quantitative deficiencies in one's interpersonal network (Perlman & Peplau, 1981). Most late adolescents move away from family and home-centered activities to develop close relationships with peers and, as a result become vulnerable to loneliness, particularly if they are not successful in establishing satisfying relationships (Chipuer, 2001). Therefore, loneliness is more prevalent among adolescents than any other segment of the population (Perlman & Landolt, 1999).

We expect that an information-oriented style relates positively to friendship quality and negatively to loneliness. Given that adolescents using an information-oriented style describe themselves as being tolerant and accepting of others, they can be expected to be able to establish and maintain positive, supportive, and mature interpersonal relationships and to relate to people with different backgrounds and opinions (Berzonsky & Kuk, 2005). Given that adolescents using a normative style score low on tolerance and have problems with mature interpersonal relations (Berzonsky & Kuk, 2005), a normative identity style can be expected to relate negatively to friendship quality and positively to loneliness. The same pattern can be expected for adolescents using a diffuse-avoidant style because they have difficulties in forming friendships and maintaining a network of social support, with their relations

being low in intimacy, openness, trust, and tolerance (Vleioras & Bosma, 2005).

It is important to investigate underlying mechanisms that possibly link identity styles to both indicators of intimacy. We argue that attachment to friends may play an intervening role in these relations, based on both theory and empirical research.

The Intervening Role of Attachment to Friends

Bowlby's (1969) attachment theory argues that parents or primary caregivers are the most important figures with whom a child bonds. Based on experiences with these important caregivers in childhood and based on the quality of these relationships, people form internal working models of themselves and others in close relationships. These models coordinate exploration away from and proximity seeking towards attachment figures and provide prototypes for later social relationships, and continue to be important throughout the life span. During the development from infancy to adolescence, these models are consolidated. Due to new communication patterns and growing cognitive abilities, adolescents can have a broader look at the internal working models of self and parents and reevaluate their attachment experiences (Kobak & Cole, 1995). During adolescence, parents are relinquished as primary attachment figures and adolescents search for peers with whom to engage in a close relationship. That way, close friends may serve as attachment figures among adolescents and attachment-

related functions are transferred to best friends (Fraley & Davis, 1997). Peer relations are characterized by close affection bonds, age-appropriate proximity-seeking, and secure-base and safe-haven behavior patterns analogous to parent-child patterns (Buhrmester, 1992).

Adolescent attachment styles are best conceptualized in a two-dimensional space, defined by the positivity of self and hypothetical others. The positivity of self indicates the degree to which individuals have internalized a sense of self-worth and expect others to positively respond to them. Hence, the self is associated with the degree of anxiety and dependency experienced in close relationships (i.e., attachment anxiety). The affect associated with hypothetical others indicates the degree to which others are expected to be available and supportive, and is therefore associated with the tendency to seek out or avoid closeness in relationships (i.e., attachment avoidance) (Bartholomew & Horowitz, 1991). Adolescents who score high on at least one of these dimensions are assumed to have an insecure attachment orientation whereas adolescents with low levels of both dimensions have a secure attachment orientation (Mallinckrodt, 2000).

It has been argued that identity development relates to attachment (Arseth et al., 2009; Pittman et al., 2009). In line with Erikson's (1968) epigenetic principle – which implies that identity development lays the foundation for the resolution of the intimacy versus isolation conflict – qualitative differences in

the identity exploration process can be expected to be relevant to the quality of adolescents' attachment to friends. From a developmental perspective, the security an adolescent gains from commitment to personal goals based on exploration may provide a secure attachment representation (Kobak & Cole, 1995). In line with this, longitudinal research shows that identity predicts later attachment representations (Zimmermann & Becker-Stoll, 2002). More specifically, research found that higher identity development levels (i.e., higher scores on exploration and commitment) are associated with secure attachment styles, whereas lower identity development levels (i.e., lower scores on exploration or commitment) relate to insecure attachment styles (Kennedy, 1999; Zimmermann & Becker-Stoll, 2002). Therefore, we expect the information-oriented style to relate negatively to both attachment anxiety and avoidance whereas we expect both the normative and the diffuse-avoidant identity style to relate positively to attachment anxiety and avoidance.

Research has also documented the implications of attachment for intimacy. Attachment security and concomitant secure base representations may provide opportunities for learning how to get along well with others and for effective relationship functioning. However, a sense of personal unworthiness, a distrust of relationship partners, and worrying that relationships are unsafe, unsatisfying, or threatening, would undermine the formation of intimate relationships (Pittman et al., 2009). Also,

the growth in the importance of trust and reciprocal self-disclosure during adolescence makes friendship more similar to relationships with attachment characteristics. Therefore, differences in attachment are more likely to be paralleled by differences in friendship quality (Allen, 2008). In line with this, there is evidence that insecure attachment to best friends is associated with loneliness (Bogaerts, Vanheule, & Desmet, 2006). However, studies focusing on the relation between attachment and close friendship or loneliness during adolescence are rare (Zimmermann, 2004).

We expect that both attachment anxiety and avoidance relate negatively to friendship quality and positively to loneliness. Previous research showed that adolescents with a secure style have emotionally close friendships, an elaborated friendship concept, appropriate abilities for emotion regulation during conflicts with their best friends, and low scores on social anxiety and hostility (Zimmerman, 2004). Adolescents with an anxious attachment style show high scores on hostility and social anxiety, have a low ability to regulate conflicts with a best friend cooperatively (Zimmerman, 2004), and use their anxious emotions to convince others to stay close and available. The negative lens through which these adolescents interpret relationships leads to loneliness (Shaver & Mikulincer, 2002). Adolescents with an avoidant attachment style do not value close relationships and deactivate their emotions. This excessive form of self-reliance is a reaction against their negative

experiences in relations with their friends. They do not expect closeness, comfort, or emotional support within close relationships. As a result, securely attached adolescents have a better friendship quality (Markiewitz, Doyle, & Brendgen, 2001) and are less lonely (Shaver & Mikulincer, 2002; Wiseman, Mayseless, & Sharabany, 2006; Zimmerman, 2004) than non-securely attached adolescents.

The Present Study

The aim of this study was to examine attachment to friends as an intervening variable in associations between identity styles and intimacy. First, we expect that an information-oriented style relates positively to friendship quality and negatively to loneliness. We expect that the relatively low levels of attachment anxiety and attachment avoidance associated with an information-oriented style will explain these associations. Second, we expect that both a normative and a diffuse-avoidant style relate negatively to friendship quality and positively to loneliness. We expect that the relatively high levels of attachment anxiety and attachment avoidance are associated with both styles will explain these associations.

METHOD

Participants and Procedure

The sample consisted of 343 undergraduate psychology students from a large university in the Dutch-speaking part of

Belgium (mean age = 18 years; *SD* = 1.62; 80% female) who received course credit for participating. Of these participants, 77% came from intact families, 19% had divorced parents, and 4% had a deceased parent. Almost all participants (96%) had the Belgian nationality. In accordance with the rules of the Internal Review Board of the university where this study was conducted, active informed consent was obtained from all adolescents. Participants completed the measures in group sessions that took no longer than 50 minutes and that were supervised by the first author.

Measures

   Identity styles. Participants completed the Identity Style Inventory - Version 4 (ISI-4; Luyckx, Lens, Smits, & Goossens, in press; Smits et al., 2009). Items were scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alphas for the information-oriented (7 items, e.g., "When facing a life decision, I try to analyze the situation in order to understand it"), the normative (8 items, e.g., "I strive to achieve the goals that my family and friends hold for me"), and the diffuse-avoidant (7 items, e.g., "Many times, by not concerning myself with personal problems, they work themselves out") subscale were .79, .67, and .77, respectively. Table 1 shows the correlations between these subscales. The information-oriented style was not significantly related to the normative style (r = .00, p = .97) and showed a significant

negative correlation with the diffuse-avoidant style ($r = -.33$, $p <$ .001). The normative and the diffuse-avoidant style were significantly related ($r = .18$, $p < .001$).

Attachment to friends. All items were scored on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Attachment to friends was measured with the Experiences in Close Relationship Scale – Short Form (ECR; Wei, Russell, Mallinckrodt, & Vogel, 2007). The attachment anxiety (6 items, e.g., "I need of lot of reassurance that I am loved by my friend") and attachment avoidance (6 items, e.g., I want to get close to my friend, but I keep pulling back") subscales had Cronbach's alphas of .62 and .76, respectively, and were positively related ($r = .22$, $p < .001$; see Table 1).

Intimacy. All items were scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Participants completed the 23-item Friendship Qualities Scale (FQS; Bukowski, Hoza, & Boivin, 1994; e.g., "My friend would help me if I needed it") and the 9-item state subscale of the State-Trait Loneliness Scales (STLS; Gerson & Perlman, 1979; e.g., "During the past days, nobody really knew me"). Cronbach's alphas for both scales were .76 and .82, respectively, and both scales were significantly negatively related ($r = -.30$, $p < .001$; see Table 1).

Table 1

Correlations Among All Study Variables

Scale	1	2	3	4	5	6
1. Information-oriented style						
2. Normative style	.00					
3. Diffuse-avoidant style	-.33***	.18***				
4. Anxious attachment	-.06	.20***	.16**			
5. Avoidant attachment	-.28***	.07	.31***	.22***		
6. Friendship quality	.37***	-.01	-.22***	-.22***	-.64***	
7. Loneliness	-.13*	.03	.16**	.29***	.36***	-.30***

* $p < .05$. ** $p < .01$. *** $p < .001$.

RESULTS

Preliminary Analyses

First, we performed a series of correlation analyses to examine associations between age and the study variables. None of these correlations were significant. Second, we performed a series of ANOVAs to examine whether study variables differed by gender. As indicated in Table 2, which presents the means and standard deviations for all study variables, gender was significantly related to the information-oriented style, the diffuse-avoidant style, attachment avoidance, and friendship quality. Specifically, girls reported higher levels of the information-oriented style and friendship quality. In contrast, boys reported higher levels of the diffuse-avoidant style and attachment avoidance. Consequently, we controlled for gender in the primary analyses.

Correlations among all study variables can be found in Table 1. As expected, the information-oriented style was positively related to friendship quality and negatively to loneliness, and the reverse pattern was found for the diffuse-avoidant style. The expected relations between the normative style and both friendship quality and loneliness were not found. The information-oriented style related negatively to attachment avoidance, but no relation with attachment anxiety was found. The normative style was positively related to attachment anxiety, but no relation with attachment avoidance was found.

As expected, the diffuse-avoidant style was positively related to attachment anxiety and attachment avoidance. Finally, both attachment anxiety and avoidance were negatively related to friendship quality and positively to loneliness.

Table 2

Descriptive Statistics for the Full Sample and Separately by Gender

Scale	Full sample			Boys	Girls	Gender difference	
	Mean (*SD*)	Theoretical Range	Observed Range	*Mean* (*SD*)	*Mean* (*SD*)	*F* (1,341)	η^2
Information-oriented style	4.04 (.51)	1.0- 5.0	2.29- 5.0	3.93 (.45)	4.07 (.52)	4.01*	.01
Normative style	2.58 (.50)	1.0- 5.0	1.25- 4.0	2.52 (.56)	2.59 (.48)	1.01	.00
Diffuse-avoidant style	2.55 (.60)	1.0- 5.0	1.00- 4.33	2.72 (.67)	2.50 (.57)	7.75**	.02
Attachment anxiety	3.42 (.86)	1.0- 7.0	1.40- 5.83	3.40 (.88)	3.42 (.85)	0.05	.00
Attachment avoidance	2.60 (.79)	1.0- 7.0	1.40- 6.07	2.94 (.87)	2.51 (.75)	16.51***	.05
Friendship quality	4.15 (.37)	1.0- 5.0	3.0 - 4.91	3.95 (.40)	4.20 (.34)	26.61***	.07
Loneliness	1.97 (.60)	1.0- 5.0	1.0 - 4.0	2.05 (.55)	1.95 (.62)	1.49	.00

* $p < .05$. ** $p < .01$.   *** $p < .001$.

Primary Analyses

Mplus Version 4.0 (Muthén & Muthén, 2006) was used to examine whether the pathways from the identity styles to intimacy were mediated by the attachment dimensions. The models were evaluated by means of several standard fit indices. The Satorra-Bentler scaled chi-square statistic (SBS-χ^2; Satorra & Bentler, 1994) should be as small as possible, preferably non-significant. The Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) should be less than .08, the Comparative Fit Index (CFI; Bentler, 1990) should exceed .90, and the Standardized Root Mean Square Residual (SRMR; Kline, 2005) should be less than .10.

In order to test for mediation, following Holmbeck (1997), three models were compared: A direct effects model including the identity styles as predictors of intimacy (Model A), a full mediation model in which the identity styles and intimacy are indirectly related through attachment to friends (Model B), and a partial mediation model including both direct and indirect paths (Model C). According to Holmbeck (1997), two types of intervening effects can be distinguished, that is, mediated effects and indirect effects. Mediation is evident when there is an initial significant relation between the independent and dependent variable that is totally (in the case of full mediation) or substantially (in the case of partial mediation) reduced after taking the intervening variable into account. An indirect effect is

evident when there is no initial relation but when the independent variable has an effect on the dependent variable through the intervening variable. Sobel's (1982) tests allow investigating the significance of indirect effects.

First, the direct effects model (Model A) was tested. This model was saturated, and, hence, provided a perfect fit to the data. Of the six direct paths, four turned out non-significant and were deleted (i.e., from the information-oriented style to loneliness, from the normative style to friendship quality and loneliness, and from the diffuse-avoidant style to friendship quality). The trimmed model fitted the data well: SBS-χ^2 (4) = 4.49, p = .34; RMSEA = .02; CFI = 1.00; SRMR = .02, and the two remaining direct paths were significant. More specifically, the information-oriented style had a positive effect on friendship quality (β = .33, p < .001), and the diffuse-avoidant style had a positive effect on loneliness (β = .14, p < .05).

Second, attachment anxiety and attachment avoidance were included as mediators in a full mediation model (Model B). This model did not fit the data adequately: SBS-χ^2 (6) = 25.87, p < .001; RMSEA = .10; CFI = .95; SRMR = .03. The non-significant paths from the information-oriented style to attachment anxiety and from the normative style to attachment avoidance were trimmed from the model, resulting in a more parsimonious model (Bentler & Mooijaart, 1989) (SBS-χ^2 (8) = 26.73, p < .001; RMSEA = .08; CFI = .95; SRMR = .03). The SBS-χ^2 difference test yielded no significant difference between

Model B and the trimmed Model B, SBS-χ^2 $_{diff}$ (2) = 0.79, p =.67. Consequently, for reasons of parsimony, these particular arrows linking the information-oriented style to attachment anxiety and the normative style to attachment avoidance could be removed from the model.

Finally, a partial mediation model (Model C), in which the two significant direct paths (e.g., from the information-oriented style to friendship quality and from the diffuse-avoidant style to loneliness) were included in the trimmed Model B, was tested. This model fitted the data adequately: SBS-χ^2 (6) = 4.17, p = .65; RMSEA = .00; CFI = 1.00; SRMR = .01. The SBS-χ^2 difference test revealed that adding these paths substantially improved model fit as compared to the trimmed Model B, SBS-χ^2 $_{diff}$ (2) = 19.30, p < .001. The non-significant direct path from the diffuse-avoidant style to loneliness was trimmed from the model, leading to a more parsimonious model (SBS-χ^2 (7) = 4.70, p = .70; RMSEA = .00; CFI = 1.00; SRMR = .01). The SBS-χ^2 difference test revealed no significant difference between Model C and the trimmed Model C, SBS-χ^2 $_{diff}$ (1) = 0.47, p = .49.

In this final model, attachment avoidance and attachment anxiety fully mediated the relation between the diffuse-avoidant style and loneliness. The initial direct path from the diffuse-avoidant style to loneliness (β = .14, p < .05) became non-significant after attachment avoidance (z = 3.22, p < .001) and attachment anxiety (z = 2.04, p < .05) were taken into account.

In addition, the effect of the information-oriented style on friendship quality was partially mediated by attachment avoidance. The initial direct path from the information-oriented style to friendship quality was reduced from .33 to .20 and the indirect effect of the information-oriented style on friendship quality through attachment avoidance was significant ($z = 3.34$, $p < .001$). Finally, there were indirect effects through attachment avoidance from the information-oriented style on loneliness ($z = -2.97$, $p < .01$) and from the diffuse-avoidant style on friendship quality ($z = -3.75$, $p < .001$). Fourth, there were indirect effects through attachment anxiety from the normative style on loneliness ($z = 2.45$, $p < .05$) and on friendship quality ($z = -2.02$, $p < .05$). The final model is shown in Figure 1.
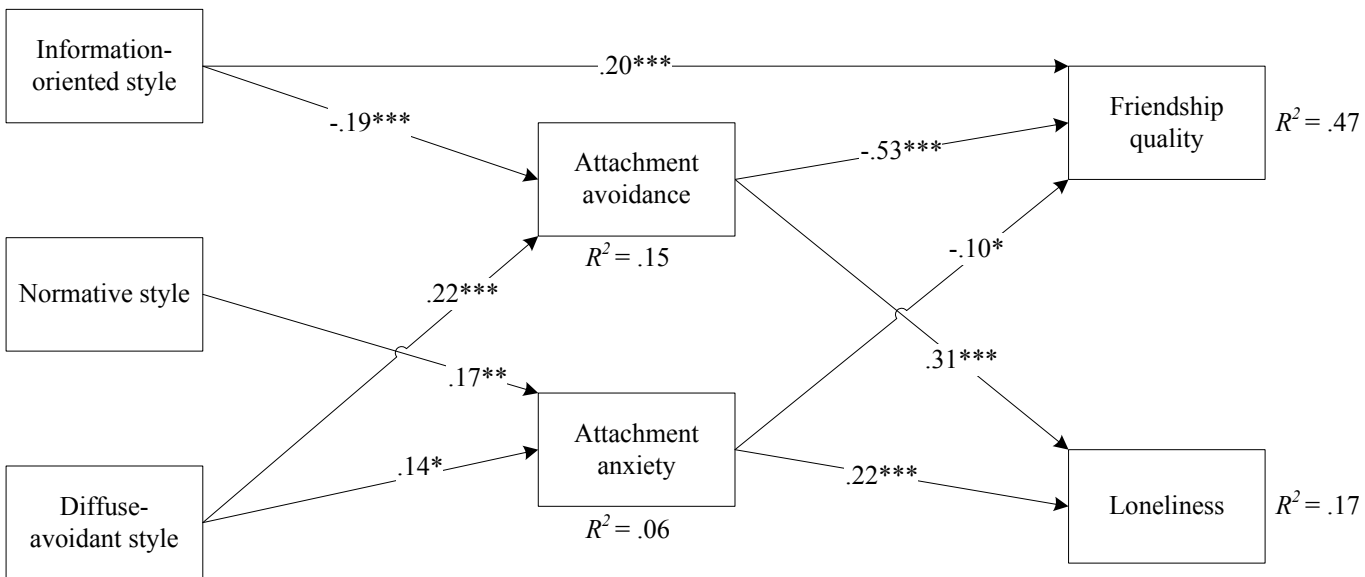
Figure 1. Final model linking the identity styles to intimacy through attachment to friends. For the sake of simplicity, gender effects as well as associations among the identity styles (left hand side of the figure) and among the intimacy measures (right hand side of the figure), which were an integral part of the model, were not included.

* $p < .05$. ** $p < .01$. *** $p < .001$.

DISCUSSION

The present study is one of the first attempts to simultaneously examine the relations among identity, attachment, and intimacy during late adolescence. Theoretically, these three constructs are closely related and become important during late adolescence. In general, for each identity style, a specific pattern of relations with attachment and intimacy was found.

Information-Oriented Style

As expected, the information-oriented style related positively to friendship quality, and this relationship was partially mediated by attachment avoidance. Adolescents using the information-oriented style seem to be more likely to develop a secure attachment to their friends (as indexed by a negative relation with attachment avoidance and no relation with attachment anxiety), allowing them to feel more comfortable with closeness and interdependence, to use support seeking and other constructive means of coping with stress (Mikulincer, Shaver, & Pereg, 2003), and respond with communication and compassion in conflict situations (Burnette, Davis, Green, Worthington, & Bradfield, 2009). They may also be better able to appraise the quality of their social relationships and determine whether their relationships meet their needs (Bowlby, 1973). In sum, these characteristics of a secure attachment can contribute

to forming and maintaining close and trusting relationships with friends, which has a positive effect on friendship quality. In spite of the absence of the expected direct negative relation, the information-oriented style was found to relate indirectly to loneliness through its negative effect on attachment avoidance, suggesting that a secure attachment to friends can inhibit or reduce loneliness. This is in line with previous research that found that adults with a secure attachment to their romantic partner are less vulnerable to loneliness (Hazan & Shaver, 1987).

Normative Style

In spite of the absence of the expected direct relations, the normative style related indirectly to friendship quality (i.e., a negative relation) and to loneliness (i.e., a positive relation) through its positive effect on attachment anxiety. This indirect effect suggests that the normative style primarily affects the development of an anxious attachment to friends rather than the development of a low friendship quality or loneliness as such. That is, adolescents using a normative style are likely to develop an anxious attachment to friends that, in turn, makes them vulnerable to lower levels of friendship quality and higher levels of loneliness. In line with this, previous research found that adults with an anxious attachment to their romantic partner feel more lonely (Hazan & Shaver, 1987). Adolescents with an anxious attachment to their friends have a strong need for

closeness. However, they worry about their relationships and are fearful of being rejected (Mayseless & Scharf, 2007; Mikulincer et al., 2003). Therefore, they exaggerate potential negative consequences of conflict, and tend to respond with hostility, anger, and hurt (Burnette et al., 2009; Zimmerman, 2004). In sum, these characteristics of attachment anxiety to friends lead to intermediate levels of comfort with dependency and closeness (Mayseless & Scharf, 2007) that negatively impact upon friendship quality.

Diffuse-Avoidant Style

As expected, the diffuse-avoidant style related positively to loneliness, a relation that was fully mediated by attachment avoidance and attachment anxiety. Adolescents using a diffuse-avoidant style seem more likely to develop an insecure attachment to their friends, which makes them more likely to feel lonely. This is in line with previous research showing that adults with an insecure attachment to their romantic partner are more lonely (Hazan & Shaver, 1987). In spite of the absence of the expected negative relation, the diffuse-avoidant style was found to relate indirectly to friendship quality through its positive effect on attachment avoidance suggesting that the diffuse-avoidant style primarily affects the development of an avoidant attachment to friends rather than the development of low friendship quality as such. That is, adolescents using a diffuse-avoidant style are likely to develop an avoidant

attachment to friends that, in turn, makes them vulnerable to lower levels of friendship quality. Adolescents with an avoidant attachment expect others to act in an uncaring and rejecting manner (Pietromonaco, Greenwood, & Barrett, 2004). Their internal working models are characterized with low expectations regarding trust and emotional support in close relationships. Therefore, they do not value attachment or close relations and do not feel comfortable with emotional dependency and closeness (Grossmann, Grossmann, Kindler, & Zimmermann, 2008; Mayseless & Scharf, 2007; Mikulincer et al., 2003), and in conflict situations, they tend to respond with blame, aloofness, and withdrawal (Pietromonaco et al., 2004). Hence, it is not surprising that their friendship concept is poorly elaborated and that their actual friendships are lower in quality (Grossmann et al., 2008; Zimmerman, 2004).

Limitations and Suggestions

Although the findings of the present study suggest that the relation between identity styles and intimacy is at least partially mediated by attachment to friends, caution must be exercised in interpreting these relationships because the direction of influence is unclear due to the cross-sectional design of the study. First, it is equally plausible that attachment to friends influences identity styles. Supportive attachment relations provide security and foster reliance which enhances personal security, trust in others, and confidence in personal ideas. These

mechanisms can explain the link between attachment and success in the identity process (Benson, Harris, & Rogers, 1992). Second, it is also plausible that intimacy influences identity styles. During adolescence, the function of friendship can be to achieve individual identity and to enhance self-understanding. It is often with best friends that individuals feel most comfortable expressing and exploring new situations, attitudes, and behaviors. Best friends generally provide support and feedback during the process of identity development (Akers, Jones, & Coyl, 1998). Longitudinal studies of identity styles, attachment to friends, and intimacy and path analyses may help to identify directionality of effect.

Second, although self-report measures are appropriate to gather information about internal and subjective processes such as identity development and intimacy, the sole reliance on a single informant may artificially inflate correlations among constructs (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future research might therefore wish to use a multi-informant approach on attachment and/or intimacy (Griffin & Bartholomew, 1994).

Finally, the sample of the present study consisted primarily of Caucasian Dutch-speaking female psychology students, which seriously limits the generalizability of the results. Future research should examine more balanced samples in terms of gender, education, and ethnic background.

Despite these limitations, the present study found clear associations between identity styles, attachment to friends, and intimacy. Stronger reliance on the information-oriented style led to increased secure attachment which, in turn, led to higher intimacy. The mirror image of these results was observed for the diffuse-avoidant style, with increased use of this style associated with lower intimacy through insecure attachment. The normative style was found to relate only indirectly to lower intimacy through its positive effect on attachment anxiety.

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Chapter 7

General Discussion

Throughout the different empirical chapters of this dissertation (Chapters 2 to 6), we have gained new insights in the assessment, meaning, hypothesized antecedents, and hypothesized outcomes of Berzonsky's (1989, 1990) identity styles. In this concluding chapter, the main findings of the present dissertation are summarized for each identity style separately. Some limitations of this dissertation are also described, along with suggestions for future research.

THREE DIFFERENT STYLES

Information-Oriented Style

The overall findings on the information-oriented style confirm its adaptive pattern of outcomes described in Chapter 1, both at the personal and interpersonal level. At the personal level, the findings suggest that adolescents using the information-oriented style form identity commitments and have high levels of well-being. However, the results of Chapter 4 qualify these findings. Adolescents using the information-oriented style in an autonomous way, what they do on average, come to identity commitments and have high levels of well-being. However, adolescents who use the information-oriented style in a controlled way show difficulties to come to commitments and have lower levels of well-being. At the interpersonal level, the findings suggest that partly because of their ability to react to other people with empathy, adolescents using the information-oriented style can perform prosocial

behavior and help other people while focusing on the other's needs and inclinations. Partly because of their secure attachment to friends, they tend to have a high friendship quality.

The first study of this dissertation on parenting (Chapter 2) only partially confirmed the expectation that adolescents using the information-oriented style are raised in a positive parenting climate. The information-oriented style was positively related to perceived parental support but it was also positively related to psychological control. The follow-up study on parenting (Chapter 4) revealed a positive relation between the information-oriented style and autonomy-supportive (versus psychological controlling) parenting, which was measured by calculating the mean of the autonomy support items and the reverse-scored psychological control items. The correlation between the information-oriented style and psychological control in this study was $r = -.22$ ($p < .001$). These findings were more in line with our expectations. Two possible explanations for this lack of consistent results can be suggested. First, in the first study on parenting (Chapter 2) the ISI-3 (Berzonsky, 1990) was used to measure identity styles whereas in the follow-up study on parenting (Chapter 4), the new measure of identity styles, that is, the ISI-4 (Smits et al., 2009) was used. As described in Chapter 3, the ISI-4 improved the interpretability of the information-oriented scale. This different content of the information-oriented scale of the lSI-4, as compared to the corresponding subscale of the ISI-3, may explain why the

findings of the latter study are more in line with theoretical expectations. For instance, items of the information-oriented scale of the ISI-3 referred often to rumination, a more maladaptive cognitive strategy, which may explain the relation between the information-oriented style and psychological control. Second, the study of Chapter 4 looked at internal differentiation in the use of identity styles. As already mentioned, the information-oriented style was positively related to autonomy-supportive parenting. However, the results of the study demonstrated that autonomy-supportive parenting related positively to autonomous motives and negatively to controlled motives behind the information-oriented style. This pattern of results suggested that autonomy-supportive parenting related more strongly to the motivational dynamics behind the information-oriented style than to the information-oriented style as such, which offers another possible explanation for our inconsistent findings.

Normative Style

The overall findings on the normative style do only partially confirm the pattern described in Chapter 1. At the personal level, the findings of Chapter 4 do not suggest that individuals using the normative style fare relatively well in terms of personal adjustment. That is, the positive relations between identity commitment and well-being were not replicated in this dissertation. More specifically, only when adolescents use the

normative style in an autonomous way, which they rarely seem to do, they tend to form identity commitments and show high levels of well-being. However, when they use the normative style in a controlled way, which they do on average, they do not tend to form commitments and seem to score low on well-being. These findings suggest that not the normative style as such but the motives behind this style relate to personal adjustment. However, at the interpersonal level, the darker side of this identity style is confirmed. The findings of Chapter 4 suggest that the normative style as such, and not the motives behind the style, relate to ethnic prejudice. The findings of Chapters 5 and 6 reveal that the normative style is characterized by a more maladaptive pattern of interpersonal behaviors. That is, adolescents using the normative style score low on prosocial behavior, their helping behavior seems to be self-oriented in nature, and they tend to resort to relational aggression. Their more insecure attachment to friends may enhance their feelings of loneliness and lead to low friendship quality.

The first study of this dissertation on parenting (Chapter 2) only partially confirmed the expectation that adolescents using the normative style are raised in an involving, yet pressuring parenting climate. The normative style was positively related to perceived parental support but it was not related to psychological control. The follow-up study on parenting (Chapter 4) revealed a negative relation between the normative style and autonomy-supportive (versus psychological

controlling) parenting. The correlation between the normative style and psychological control in this study was $r = .15$ ($p <$ .05). These findings were more in line with our expectations. To explain these inconsistent findings, the same line of reasoning as developed for the information-oriented style can be adopted. First, the different content of the normative scale of the lSI-4, as compared to the corresponding subscale of the ISI-3, may explain why the findings of the latter study are more in line with theoretical expectations. Second, the normative style was negatively related to autonomy-supportive parenting. However, the results of the study in Chapter 4 demonstrated that autonomy-supportive parenting related positively to autonomous motives and negatively to controlled motives behind the normative style. This pattern of results suggests that autonomy-supportive parenting relates more strongly to the motivational dynamics behind the normative style than to the normative style as such, which offers another possible explanation for our inconsistent findings.

Diffuse-Avoidant Style

The overall findings on the diffuse-avoidant style confirm its maladaptive pattern of outcomes described in Chapter 1, both at the personal and interpersonal level. At the personal level, adolescents using the diffuse-avoidant style seem to have problems to form identity commitments and score low on well-being. At the interpersonal level, adolescents using the diffuse-

avoidant style seem to be characterized by ethnic prejudice. Partly because of their inability to react to other people with empathy, adolescents using the diffuse-avoidant style tend to use physical and relational aggression and if they help other people the helping is self-oriented in nature. Partly because of their insecure attachment to friends, they tend to have a low friendship quality and seem to be lonely.

Both studies on parenting (Chapters 2 and 4) of this dissertation confirmed the expectation that adolescents using the diffuse-avoidant style are raised in a non-supportive, chaotic, and pressuring parenting environment. More specifically, in Chapter 2, the diffuse-avoidant style was negatively related to behavioral control and positively related to psychological control. The follow-up study on parenting (Chapter 4) revealed a negative relation between the diffuse-avoidant style and autonomy-supportive (versus psychological controlling) parenting. The correlation between the diffuse-avoidant style and psychological control in this study was $r = .36$ ($p < .001$).

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

In this section, we will not reiterate the limitations and suggestions for future research as mentioned in each empirical chapter. Instead, we will point out some limitations that pertain to all of the empirical chapters (i.e., Chapters 2 to 6) and offer some ideas for future research as suggested by this dissertation

as a whole. Limitations are organized in the following sections: Research questions, method, design, and analyses.

<div style="text-align:center">Research Questions</div>

Parenting Goals

The research on the relation between parenting and identity styles in this dissertation has exclusively focused on parenting dimensions. However, Darling and Steinberg (1993) have argued that, in order to understand parental influences on child development, parenting dimensions should be distinguished from parenting goals. Whereas parenting dimensions are an indication of the overall emotional climate within the family, parenting goals determine which values parents encourage or discourage. In this respect, Self-Determination Theory (SDT) makes a distinction between parents who promote intrinsic goals (such as community contribution, relational involvement, and self-development) and parents who promote extrinsic goals (such as financial success, status, and looking good) (Kasser & Ryan, 1996). Future research could examine relations between parents' goal promotion efforts and adolescents' identity styles.

Based on SDT and identity style theory three hypotheses can be formulated. First, we expect parents' promotion of intrinsic (rather than extrinsic) goals to relate positively to an information-oriented style. When parents promote intrinsic goals, they convey a strong interest in the actualization of one's personal interests, values, and potential (Vansteenkiste, 2005).

This type of parental approach, in turn, may foster adolescent engagement in an active and deliberate search for personal identity choices. Second, we hypothesize that a normative style is more likely to develop within a parenting climate that stresses extrinsic (rather than intrinsic) goals. As extrinsic goals are highly valued within current Western societies, it seems likely that parents with a strong focus on extrinsic goals attach a lot of importance to conformity with prevailing cultural values. As they communicate the importance of extrinsic goals, these parents may also stress the importance of subscribing to highly valued societal and interpersonal expectations. This particular emphasis, in turn, may lead to the submissive and conformist orientation typical of normative individuals. Third, we expect the diffuse-avoidant style to be linked to parents' promotion of extrinsic (rather than intrinsic) goals. It has been argued and shown that a focus on extrinsic goals does not come with feelings of deep-level satisfaction. Instead, when focused on extrinsic goals, individuals only experience short-lived happiness and a strong urge to obtain even more extrinsic goods (e.g., money and fame) (Kasser & Ryan, 1996). When parents strongly emphasize extrinsic goals over intrinsic goals, adolescents may become alienated from their genuine interests and life goals, experience a sense of existential emptiness, and develop a procrastinating, situation-driven approach to identity development. This reasoning is consistent with descriptions of diffuse-avoidant adolescents as geared toward hedonistic

satisfaction, seeking accreditation from external social sources, and a strong concern with impression management rather than personal development (Berzonsky & Sullivan, 1992).

Measurement Issues

The ISI-4 is a reliable and valid instrument to measure identity styles, which was demonstrated in Chapter 3. However, future research can be conducted to improve this measure in several ways. First, researchers who are used to working with the ISI-3 may be surprised by the low and occasionally non-significant correlation between the normative scale and commitment, because previous research with the ISI-3 always empirically confirmed this relation, which was therefore never in doubt. Therefore, it would be interesting to see how the normative style relates to other measures of commitment as found, for instance, in the Dimensions of Identity Development Scale (DIDS; Luyckx et al., 2008) or the Ego Identity Process Questionnaire (EIPQ; Balistreri, Busch-Rossnagel, & Geisinger, 1995). Second, the items of the normative style are slightly different compared to the items of the information-oriented style and the diffuse-avoidant style. The items of the normative scale focus on values and beliefs, whereas the items of the other two scales focus on decision-making. It would be interesting to reformulate some items of the normative scale in terms of decision-making. Third, based on comparisons between global and domain-specific identity statuses, the use of the latter type

of statuses is recommended whenever possible because, among other reasons, convergence in identity statuses across domains was low (Goossens, 2001). Therefore, future research should focus on the development of a measure of identity styles that captures identity styles within different domains. For instance, it could be that mid-adolescents use the information-oriented style in the domain of study choice because this domain is salient to them, whereas they use the normative or the diffuse-avoidant style in the domain of politics because they are not allowed to vote yet. Also, in line with social domain theory, according to which adolescents have qualitatively different social interactions that lead to the construction of different domains of social knowledge (e.g., Smetana, 1999), adolescents could use the information-oriented style in more personal domains (e.g., friendship), whereas they could use the normative style in domains in which adolescents are willing to grant some authority to their parents (e.g., schoolwork or future plans).

Internal Differentiation

In this dissertation, the internal differentiation among the users of a particular identity style has been conceptualized in terms of the motives behind the identity styles. As described in Chapter 4, these motives play an important role in predicting outcomes. However, they cannot explain all of the relations obtained between identity styles and different outcomes, suggesting that the identity styles as such are important (as

suggested by the relation between the normative style and ethnic prejudice in Chapter 4) or that other variables play a role in the internal differentiation of identity styles. A suggestion for future research is to study additional variables that might explain internal differentiation in the use of identity styles. Vleioras and Bosma (2005) already found that dealing with identity issues that result in commitments was related to greater psychological well-being, more than just dealing with identity issues per se. It would also be interesting to investigate the role of rumination. Rumination can be described as an unproductive, passive, and repetitive focus on the self and is the opposite of self-reflection (Martin & Tesser, 1996; Teynor, Gonzalez, & Nolen-Hoeksema, 2003). Luyckx et al. (2008) found that adolescents in the Moratorium status, characterized by rumination, scored the lowest on well-being compared to the other statuses. It is possible that some adolescents using the information-oriented style are characterized by rumination, whereas others are characterized by self-reflection, leading to different outcomes (Luyckx, Soenens, Berzonsky, Smits, Goossens, & Vansteenkiste, 2007).

Peer Interactions

The research on the relation between the identity styles and peer interactions of this dissertation is just a start. Future research could focus on many other aspects of this relation. We discuss two possibilities. First, some variables used in Chapter 5

could also explain the findings of Chapter 6 and vice versa. For example, it is possible that the relation between attachment avoidance and friendship quality is mediated by empathy. Previous research found that the relation between attachment avoidance and forgiveness was mediated by empathy (Burnette, Davis, Green, Worthington, & Bradfield, 2009). Another example is that empathy can be a mediator in the relation between identity styles and friendship quality. Persons high in empathy act in specific ways towards others such as their friends, that is, in ways that minimize social conflict and disruption. These actions have predictable consequences for how these people are viewed by their friends, and these perceptions affect, for example, their friendship quality (Davis & Kraus, 1991). However, the selection of the specific mediators in Chapters 5 and 6 was based on theoretical grounds.

Second, research has found that friends tend to be similar across many characteristics such as socio-demographic factors (e.g., Billy, Rogers, & Udry, 1984), bullying (e.g., Duffy & Nesdale, 2009), deviant behavior (e.g., Urberg, Degirmencioglu, & Tolson, 1998), prosocial behavior (e.g., Haselager, Hartup, van Lieshout, & Riksen-Walraven, 1998), aggression (e.g., Mariano & Harton, 2005), substance use (Kandel, 1978), and sexual intercourse (e.g., Billy et al., 1984) and that adolescents develop a social sense of self through interpersonal relationships and social interactions (Youniss & Smollar, 1985). It seems therefore reasonable to expect that adolescent friends also share

similarities in identity development. Akers, Jones, and Coyl (1998) found that best friends are generally more alike than non-friends in their scores on identity status subscales. More specifically, best friends reveal strong similarities in levels of foreclosure and diffusion. It remains to be examined, however, whether best friends use similar identity styles and whether there is a relation between the quality of friendship and the identity style used.

Method

Multi-Informant Approach

This dissertation relies on self-report questionnaires that reflect only the viewpoint of the adolescents themselves. Adolescent self-report may be the most valid measure to assess variables such as identity styles due to their subjective nature. However, other variables included in this dissertation (e.g., parenting and peer interactions) can be affected by social desirability bias. Also, one needs to examine if our findings result from shared-method variance (Tepper & Tepper, 1993). Shared-method variance is an association between variables at least partially due to similar methods of measurement. As such, shared-method variance may have played a role in the association between, for instance, parenting and identity styles. The participants answered questions about their relationship with their parents and about their identity styles. It seems reasonable that identity styles play a role in how the adolescents

perceive their parents. Therefore, in future research, a multi-informant approach is needed.

Sample

With few exceptions, all participants of this dissertation were college students and thus late adolescents (18 to 21 years). In Chapter 2, half of the sample consisted of high school students, more specifically mid-adolescents and in Chapter 4, all participants were mid-adolescents (15 to 18 years). As most of the studies sampled late adolescents, it is unclear whether the findings of this dissertation would be similar for younger adolescents. A suggestion for future research is to relate the identity styles to a broad range of indicators of psychosocial functioning in a sample of mid-adolescents. There are reasons to believe that results obtained with mid-adolescents may be somewhat different from results obtained with late adolescents. Berzonsky (2004), for instance, suggested that, when adolescents adopt an information-oriented identity style during mid-adolescence, this could be rooted in dissatisfaction with their lives and therefore be maladaptive. A similar reasoning is advanced by Marcia (1980), who claimed that the moratorium and achievement status only become adaptive by the end of middle adolescence (18 years). That is, already being in the moratorium or achievement status during middle adolescence might lead to negative outcomes.

Gender Differences

The college students in this dissertation were mostly psychology students and, hence, the majority in each sample was female. Although there is little evidence for gender differences regarding questions of identity (Kroger, 2003), it was found in different chapters, that is, Chapters 2, 4, 5, and 6, that girls score higher on the information-oriented style, whereas boys score higher on the diffuse-avoidant style. Therefore, almost all the results in this dissertation were controlled for gender. However, the lack of balanced samples seriously limits the possibility to generalize the results pertaining to gender in this dissertation. Future research may further investigate the role of gender in all relations studied in this dissertation.

Design

All the studies in this dissertation are cross-sectional. In general, few studies have examined identity styles from a longitudinal framework. Virtually all of these studies are unpublished and the identity styles were measured with the ISI-3 (e.g., Berzonsky, 2009; Smits, Soenens, Luyckx, Duriez, & Goossens, 2007a; 2007b; Smits, Soenens, Luyckx, & Goossens, 2007), with one exception in which the ISI-4 is used (Luyckx, Lens, Smits, & Goossens, in press). In the following paragraphs, we will describe some suggestions for future research to investigate the identity styles longitudinally. First, stability and mean-level changes of identity styles are discussed. Second, we

will discuss whether adolescents develop a preferred identity style over time. Third, the possible direction of longitudinal associations between some of the variables used in this dissertation, that is parenting and identity styles, is discussed.

It would be interesting to investigate the stability of identity styles. This would provide us with an indication of the retention of an individual's relative placement in the sample. An identity style refers to the strategy that an individual prefers to use or characteristically employs (Berzonsky, 1990), so we can expect that the rank-order consistency of the identity styles will be moderate to high. Research on identity statuses has shown that the moratorium and achievement status, both of which are characterized by an information-oriented identity style, gradually become more frequent during late adolescence (Goossens, Marcoen, & Janssen, 1999). Therefore, it can be expected that, although all three identity styles might be about equally frequent at the beginning of mid-adolescence, the information-oriented identity style will become more frequently used whereas both the normative and the diffuse-avoidant identity styles will become less frequently used during mid-adolescence and towards late adolescence. Preliminary research with mean level changes on the subscales of the ISI-3 showed that the information-oriented style increased from the age of 15 to 18, the diffuse-avoidant style decreased, and the normative style remained stable (Smits et al., 2007b).

In accordance with other theories in developmental psychology (e.g., Inhelder & Piaget, 1958), Berzonsky (1990) assumes that, from early adolescence on, people have the cognitive ability to experiment with different identity styles. As a result of the interaction with the environment and as a result of the consequences of the choices that are made and the way in which these choices are made, the adolescent will gradually develop a preference for a specific identity style. By the end of adolescence, this preferred identity style would become relatively stable. Because this idea has never been empirically examined, this would be an interesting suggestion for future research.

In this dissertation, all the relationships have been cross-sectional. In order to draw conclusions about the direction of the relationships between, for instance, parenting and identity styles, a longitudinal design is needed. As far as the direction of the relationships is concerned, most studies assume a uni-directional influence from parents to children. However, recent parenting theories question this assumption (Grusec, Goodnow, & Kuczynski, 2000; Holden & Miller, 1999; Stattin & Kerr, 2000). Based on transactional developmental models (Magnusson, 1988; Sameroff & Fiese, 2000), these theories regard parenting as a dynamic interaction, assuming that adolescents also influence their parents. In addition, adolescent life experiences (which partly result from identity styles) can force parents to modify their parenting. For instance, previous longitudinal

research found reciprocal effects between parenting and identity: Psychological control inhibited progress in commitment, whereas exploration in breadth led to increased psychological control (Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). So, in future research, it will be necessary to look at bi-directional influences among all of our variables in a longitudinal design.

Analyses

The analyses in this dissertation are based on a variable-centered approach. That is, we emphasized differences between individuals and sought to explain behavior in terms of dimensional concepts that represent ideas about interrelationships between variables. Measures of the relations among variables are assumed to capture the way in which the variables interrelate within the individual to influence behavior (Bates, 2000; Magnusson, 1998). A suggestion for future research is to do analyses based on a person-centered approach. That way, we can understand complex processes that characterize the individual (Magnusson, 1998). Patterns of variables contribute to behavioral outcomes via the dynamic role they play within the total functioning of the individual (Bergman, 1998; Radke-Yarrow, 1998). With the latter approach, it would be possible to investigate by means of cluster analysis, for instance, whether individuals have a preferred identity style, whether they engage simultaneously in multiple

identity style strategies, or whether they do not engage in identity exploration at all. Preliminary research with the ISI-3 revealed five clusters, that is, an information-oriented cluster, a normative cluster, a diffuse-avoidant cluster, a mixed strategy cluster, and a non-exploring cluster. All clusters were differently related to well-being (Smits, Luyckx, Soenens, & Goossens, 2008). These preliminary findings illustrate the potential benefits of a person-centered approach to measuring identity styles.

CONCLUSION

Despite these limitations and pending future research on identity styles, we hope that the present dissertation, through the new measure introduced and the results obtained, can contribute to the continuing development of identity research and theory.

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