

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

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Abstract Self-determination theory (SDT) distinguishes between autonomous and controlled reasons for people's behavior and essentially states that beneficial effects for individuals' psychosocial adjustment will accrue when behavior is guided by autonomous (rather than controlled) motives. The present study tested this assumption in the area of adolescents' identity styles. In a sample of mid-adolescents ($N = 247$; 53% female), it was found that the motives for using an information-oriented or a normative identity style explained additional variance beyond the identity styles as such in two of the adjustment outcomes examined. Specifically, autonomous motives underlying these two identity styles were positively related to commitment and personal well-being, whereas controlled motives were negatively related to these same adjustment outcomes. 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 underlying identity styles. Implications for future research on the motivational dynamics behind identity development are discussed.

Keywords Identity styles · Self-determination theory · Underlying motives · Autonomy-supportive parenting

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).

An issue that has received limited attention in the literature is that adolescents may have quite different reasons for using a particular identity style. For example, some adolescents actively gather information (i.e., they use an information-oriented style) because they think this active search will allow 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 different reasons. 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 reasons described in these examples have received considerable attention within self-determination theory (SDT; Deci and Ryan 2000; Vansteenkiste et al. 2008), yet have never been empirically applied to the study of identity styles. Within SDT, these reasons are typically referred to as motivational regulations

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of behavior. In this paper, these motivational regulations will be referred to as the motives underlying identity styles.

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 style, the present study also examines whether identity styles still yield an independent contribution to psychosocial adjustment once the motives underlying one's identity style are taken into account. Finally, we examine associations between perceived autonomy-supportive parenting, identity styles, and their underlying motives.

The 'How' of Identity Exploration: Identity Styles

Berzonsky's (1990) identity style 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 held 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.

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 et al. 2005a, b). 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 et al. 2005b). An information-oriented style

is positively related to commitment (Berzonsky 2003) and well-being as indexed by high levels of self-esteem and personal growth and few depressive symptoms (e.g., Berzonsky and Kinney 1995; Nurmi et al. 1997; Vleioras and 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 et al. 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 and Kuk 2000) and reject prejudiced attitudes towards minority groups (Soenens et al. 2005b).

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 few depressive symptoms (Beaumont and 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 come at a cost in the realm of interpersonal relationships. A normative style has been shown to relate positively to ethnic prejudice (Soenens et al. 2005b), 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 and Kuk 2000). The diffuse-avoidant style is associated with negative aspects of psychosocial adjustment only, such as lower well-being (Phillips and Pittman 2007; Seaton and Beaumont 2008; Vleioras and Bosma 2005). However, some studies failed to find that diffuse-avoidant individuals showed lower self-worth than their age-mates who used any of the other two styles (Beaumont and Zukanovic 2005).

Research on identity styles has concentrated on 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 adjustment in mid-adolescence will depend on the motives underlying the identity styles. One theory that is well suited to conceptualize individuals' reasons for using a particular identity style is SDT (Deci and 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 Underlying Identity Styles

SDT (Ryan and 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, by contrast, may adopt an information-oriented style because their parents pressure them to explore various alternatives 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 et al. 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 decide not to engage in an activity for autonomous or controlled reasons (Vansteenkiste et al. 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 explore different identity options (i.e., autonomous motivation) or be pressured 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 et al. 2005a). 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 and Ryan 2000). A large body of research in different domains has shown that an autonomous regulation of behavior, as compared to a controlled regulation, yields beneficial effects for individuals’ well-being (Deci and 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 et al. 1996).

Antecedents of Identity Styles: Autonomy-Supportive Versus Controlling Parenting

As regards the developmental antecedents of autonomous and controlled motives underlying any behavior, SDT claims that 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 et al. 1997; Soenens et al. 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 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 et al. 2005; Vansteenkiste 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 et al. 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 to autonomous motives and negatively to controlled motives.

The Present Study

The general aim of this study was to contribute to an integration of the identity and motivation literature (Flum and Blustein 2000; Kaplan and Flum 2009). To achieve this objective, we examined the adjustment outcomes and parental antecedents of adolescents' motives for adopting a particular identity style. This study had seven specific aims. First, in a series of preliminary analyses, we examined gender differences in all of the variables included in this study. 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 et al. 2007) and well-being (Kling et al. 1999; Hypothesis 1).

Second, we investigated the bivariate relations between the information-oriented and normative identity styles and the motives behind their use. Based on earlier research (Soenens et al. 2005a), 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 2).

Third, we examined the bivariate associations among the information-oriented and normative identity styles and three aspects of psychosocial adjustment, that is, commitment, well-being, and ethnic prejudice. 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 3).

Fourth, we examined whether the autonomous and controlled motives behind the use of a normative or information-oriented identity style relate differently to the three aspects of psychosocial adjustment. Based on SDT (Deci and Ryan 1985) and earlier research (Luyckx et al. 2007), we predicted that autonomous motivation underlying both the information-oriented and normative identity styles would relate to high levels of commitment and well-being and low levels of ethnic prejudice. Conversely, controlled motivation underlying the use of these same styles would relate to low levels of commitment and well-being and high levels of ethnic prejudice (Hypothesis 4).

Fifth, we conducted a series of exploratory regression analyses. On the basis of SDT, we expected that the motives underlying adolescents' use of identity styles would add significantly to the prediction of psychosocial adjustment beyond the effects of the styles as such. In contrast, we did not have a priori expectations about whether the identity styles as such would still be significantly related to the adjustment outcomes after taking into account the effect of the underlying motives.

Sixth, we aimed to examine associations between perceived autonomy-supportive parenting, identity styles, and the motives underlying identity styles. We hypothesized autonomy-supportive parenting to relate positively to the information-oriented style and negatively to both the normative and diffuse-avoidant styles (Hypothesis 5). 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 et al. 2007) or a positive family climate (Matheis and 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 (Hypothesis 6). This expectation, once again, will be examined for the information-oriented and normative styles only.

Seventh, we computed a series of partial correlations between autonomy-supportive parenting and the identity styles controlled for the underlying motives and between autonomy-supportive parenting and the underlying motives controlled for the identity styles as such. These exploratory analyses, which were conceptually analogous to the regression analyses performed for the associations with psychosocial adjustment, were meant to yield estimates of the unique associations among the three types of variables involved (i.e., autonomy-supportive parenting, identity styles, and their underlying motives). Although we expected on the basis of SDT that autonomy-supportive parenting would be uniquely related to the motives underlying identity styles, no clear hypothesis could be

formulated regarding the unique associations between autonomy-supportive parenting and the identity styles as such.

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 to do so. Passive informed consent was obtained from parents for adolescents under the age of 16 years. 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 Dutch version of the Identity Style Inventory—Version 4 (ISI-4; Luyckx et al. in press; Smits et al. 2009). Items were scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and scores were averaged across the respective items in 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”). These average scores refer to the extent to which adolescents use

each of the three identity styles. Cronbach's alphas were .73, .66, and .76 for the information-oriented, normative, and diffuse-avoidant subscales, respectively.

The ISI-4 is a recent revision of the Identity Style Inventory-3 (ISI-3; Berzonsky 1990) that was intended to remedy some of the shortcomings of the ISI-3. The revised version aims to assess the same three identity styles as the original instrument did, but some items were reformulated, others were dropped, and a number of new items were added. The 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. Confirmatory factor analysis clearly supported the hypothesized three-factor structure of the instrument.

The ISI-4 has satisfactory test–retest reliability and stability (Smits et al. 2009). More specifically, test–retest reliability across a 1-week interval was $r = .80, .85, \text{ and } .87$ for the information-oriented style, the normative style, and the diffuse-avoidant style, respectively. Stability across a period of 4 months was $r = .63, .62, \text{ and } .66$ 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 et al. 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.

Autonomous Versus Controlled Reasons Underlying Identity Styles

A measure of the degree to which adolescents use a particular identity style in an autonomous or controlled way was developed for this study. As explained in the

Introduction, the examination of the underlying motives was restricted to the information-oriented and normative styles, because of the lack of conceptual clarity regarding the diffuse-avoidant style. When participants had completed some of the individual items of the ISI-4, each of which referred to a particular identity style, they were presented with a number of autonomous versus controlled motives for adopting that particular identity style. The actual wording of these reasons was adapted from existing measures of self-regulation (e.g., Ryan and Connell 1989). Similar procedures were already used in research on the internalization of regulations for religious activities (Neyrinck et al. 2006) and on how parents communicate about prohibitions of friendships (Soenens et al. in press).

Specifically, we asked participants to rate their motives for engaging in a particular identity-related behavior for four items tapping the information-oriented style and four items tapping the normative style. These eight items were chosen because they referred to a conscious action or behavior (e.g., “I try to ...” or “I strive to ...”). The autonomous reasons referred to a willing and volitional engagement in the action or the behavior (labelled ‘identified regulation’ in SDT). The controlled reasons referred either to an external standard (labelled as ‘external regulation’ in SDT) or a pressuring intra-psychic standard (labelled as ‘introjected regulation’ in SDT). 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).” All reasons were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and scores were averaged for each of the two styles for autonomous and controlled motives separately. These average scores reflected the extent to which adolescents use a specific identity style in an autonomous or a controlled way. For the information-oriented style, Cronbach’s alphas were .70 and .81 for autonomous and controlled motives, respectively. For the normative style, Cronbach’s alphas were .71 and .84 for autonomous and controlled motives, respectively. In short, a reliable measure was developed of the autonomous and controlled motives underlying adolescents’ use of the information-oriented and normative identity styles.

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

Three well-being measures were used that tapped depressive symptoms, satisfaction with life, and self-esteem, respectively. 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 et al. (2000). Items were 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 depressive symptoms 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 et al. 1999) of the Satisfaction With Life Scale (SWLS; Diener et al. 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 et al. 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 well-being composite score based on these three measures was used in all subsequent analyses. A principal components analysis on the well-being measures yielded a single factor accounting for 73% of the variance, with a negative loading for depressive symptoms and positive loadings for both life satisfaction and self-esteem. As a consequence, scores on all three measures were transformed to *z*-scores, the transformed scores for life satisfaction and self-esteem were added, and the transformed score for depressive symptoms was subtracted from that sum. The resulting score was used as a composite score for well-being.

Ethnic Prejudice

A six-item ethnic prejudice scale (Billiet and 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). 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 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 and 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

Preliminary Analyses

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—as predicted by Hypothesis 1—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.

Identity Styles, Their Underlying Motives, and Psychosocial Adjustment

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, the partial correlation between the normative style and autonomous motives (controlling for controlled motives) was no longer significant ($r = .11$; $p = .09$), whereas the partial correlation between the normative style and controlled motives (controlling for autonomous motives) remained significant ($r = .41$; $p < .001$). These partial correlations reflected unique (or ‘pure’) associations of the normative style with each of the two types of motives, as the autonomous and controlled motives behind a normative style were positively correlated ($r = .23$, $p < .001$). Together, these correlations showed that an information-oriented style was uniquely related to autonomous motives and that a normative style was predominantly related to controlled motives, as predicted by Hypothesis 2.

As predicted by Hypothesis 3, 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 positively related to ethnic prejudice only. Largely consistent with Hypothesis 4, 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 positively related to commitment only. A controlled motive behind the information-oriented and

Table 1 Descriptive statistics for the full sample and separately by gender

Scale	Full sample				Boys Mean (SD)	Girls Mean (SD)	Gender difference	
	Valid <i>N</i>	Mean (SD)	Possible range	Observed range			<i>F</i> (1,213)	η^2
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)	.00	.00
Diffuse-avoidant style	245	2.59 (.63)	1.0–5.0	1.22–4.78	2.56 (.60)	2.62 (.66)	.53	.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-information	247	2.26 (.70)	1.0–5.0	1.00–4.25	2.29 (.70)	2.24 (.71)	.29	.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
Motives: controlled-normative	246	2.10 (.72)	1.0–5.0	1.0–4.13	2.13 (.72)	2.06 (.71)	.55	.00
Identity commitment	247	3.44 (.67)	1.0–5.0	1.56–5.0	3.48 (.61)	3.40 (.72)	.93	.00
Well-being	247	.00 (2.57)	–∞ to +∞	–8.27 to 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)	.41	.00

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

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: autonomous-information	.64***	–.11	–.42***							
5. Motives: controlled-information	–.02	.32***	.27***	–.04						
6. Motives: autonomous-normative	.18**	.19**	–.07	.32***	.14*					
7. Motives: controlled-normative	–.03	.42***	.33***	–.06	.70***	.23***				
8. Commitment	.34***	–.02	–.49***	.31***	–.20**	.18**	–.22***			
9. Well-being	.28***	–.06	–.32***	.30***	–.19**	.10	–.21***	.41***		
10. Ethnic prejudice	–.14*	.21***	.12*	–.12*	.12	–.03	.14*	–.04	.01	
11. Autonomy-supportive parenting	.34***	–.14*	–.37***	.40***	–.18**	.08	–.24***	.22***	.46***	–.21***

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

normative styles was negatively related to commitment and well-being. A controlled motive behind the normative style was also positively related to ethnic prejudice.

Additional Contributions of the Motives Underlying Identity Styles as Predictors of Psychosocial Adjustment

Hierarchical multiple regression analyses were performed to examine the additional contribution, if any, of the motives underlying identity styles to the prediction of psychosocial adjustment. These analyses could be conducted for the information-oriented and normative 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 ($\Delta R^2 = .06$, $F(4, 242) = 8.57$, $p < .001$) and well-being ($\Delta R^2 = .06$, $F(4, 242) = 9.57$, $p < .001$) but not to the prediction of ethnic prejudice

($\Delta R^2 = .01, F(4, 240) = 1.50, p = .22$). Commitment was positively predicted by an autonomous motive and negatively by a controlled motive. The association between the information-oriented style and commitment remained significant when these motives were taken into account. Well-being was predicted positively by an autonomous motive and negatively by a controlled motive. The association between the information-oriented style and well-being remained significant when the underlying motives were also taken into account. For two aspects of psychosocial adjustment, then, the findings were consistent with the expectation advanced. For commitment and well-being, the motives underlying adolescents' use of the information-oriented style contributed significantly to the prediction beyond the effect observed for that style in itself. However, no such additional contribution of the motives underlying adolescents' use of the information-oriented style was observed in the prediction of the third aspect of psychosocial adjustment, that is, ethnic prejudice.

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 ($R^2 = .14, F(2, 242) = 19.94, p < .001$) but not commitment ($R^2 = .00, F(2, 242) = .48, p = .62$). 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 ($\Delta R^2 = .06, F(4, 240) = 8.58, p < .001$) but not ethnic prejudice ($\Delta R^2 = .01, F(4, 240) = 1.58, p = .21$). Commitment and well-being

were positively predicted by an autonomous motive and negatively by a controlled motive. These findings, then, were highly similar to the results obtained for the information-oriented style. The motives underlying adolescents' use of the normative style contributed significantly to the prediction beyond the effect observed for that style in itself for both commitment and well-being. However, no such additional contribution of the motives underlying the normative style was observed in the prediction of ethnic prejudice.

Autonomy-Supportive Parenting, Identity Styles, and Their Underlying Motives

Correlations between autonomy-supportive parenting, identity styles, and their underlying motives can also be found in Table 2. As predicted by Hypothesis 5, autonomy-supportive parenting was positively related to the information-oriented style and negatively to the normative and diffuse-avoidant styles. As expected, the autonomous motives behind the information-oriented and normative styles correlated positively with autonomy-supportive parenting, whereas the controlled motives underlying these same styles correlated negatively with this type of parenting. Against expectations, the correlation between autonomous motives and autonomy-supportive parenting failed to reach significance for the normative style. Taken together, this set of correlations largely supported Hypothesis 6, which predicted that autonomy-supportive parenting would relate positively to autonomous motives behind the two identity styles examined and negatively to controlled motives behind these same identity styles. There was only one exception to this predicted pattern of findings, that is, a

Table 3 Regression analyses of information-oriented and normative styles and motives on outcome variables

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

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

non-significant association between autonomy-supportive parenting and controlled motives for a normative style.

Unique Associations with Autonomy-Supportive Parenting for Identity Styles and Their Underlying Motives

To examine unique associations between perceived autonomy-supportive parenting and motives, controlling for identity styles, and vice versa, we computed a series of partial correlations. These partial correlations allowed us to determine whether autonomy-supportive parenting was still related to the identity styles once associations between parenting and motives behind the identity styles were 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). These findings suggested that there was no unique association between autonomy-supportive parenting and both identity styles once the motives underlying these styles were statistically controlled for. By contrast, partial correlations between autonomy-supportive parenting and the motives underlying adolescents' use of the identity styles, controlled for the identity style as such, generally remained significant ($r = .26$, $p < .001$, and $r = -.20$, $p < .01$, for autonomous and controlled motives underlying the information-oriented style, respectively, and $r = .11$, $p = .08$ and $r = -.20$, $p < .01$, for autonomous and controlled motives underlying the normative style, respectively). With the exception of a single partial correlation, which fell just short of significance, these results suggested that there was a unique association between autonomy-supportive parenting and both motives underlying adolescents' use of identity styles once these styles as such were statistically controlled for. Taken together, these results of the partial correlation analyses showed that associations between autonomy-supportive parenting and the motives underlying the identity styles were 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 Underlying Identity Styles and Adolescents' Psychosocial Adjustment

In the present study, the information-oriented and normative styles related differently to the adjustment 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 in regression analyses, 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 adjustment 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 psychosocial adjustment, 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 same aspects of psychosocial adjustment. 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 report difficulties to come to commitments and display low levels of well-being. These findings are in line with a central hypothesis in SDT (Ryan and Deci 2000) stating that an autonomous regulation of behavior is an essential ingredient for individuals' 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 higher levels of need for structure and need for closure (Berzonsky and Adams, 1999) and the lower levels of openness to information, values, and experiences (Berzonsky and Sullivan 1992) that are related to a normative style. The present study is a first attempt to explore 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 Underlying 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 closed-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 et al. 2005, 2008).

Limitations

There are a number of limitations to the design of this study. First, our sample comprised white and highly educated mid-adolescents only. Therefore, we cannot state with certainty that our findings will generalize to other cultures, age periods, or populations with a more diverse educational background. Second, all measures in the study were self-report instruments. Although such instruments are appropriate to gather information about internal and subjective processes such as identity or individual motives for behavior, the sole reliance on a single informant may artificially inflate correlations among the constructs measured. Alternative approaches using different types of measures or multiple informants whenever possible—including parental reports on autonomy-supportive parenting or ratings of adolescents' psychosocial adjustment by trained observers—may remedy this particular shortcoming of our study. Third, due to its cross-sectional nature, our study cannot clarify the direction of effects in the associations among parenting, identity styles including their underlying motives, and psychosocial adjustment. A particular causal ordering among the key variables was implied in many of the analyses conducted in our study,

with autonomy-supportive parenting as presumed antecedent of identity styles and their underlying motives and psychosocial adjustment as presumed consequence of both identity styles and their underlying motives. Alternative causal orderings, with increases in parents' autonomy support as a response to adolescents' increasingly volitional or autonomous functioning and increased autonomous functioning as a natural consequence of greater psychosocial adjustment, are of course equally plausible. Longitudinal research is needed to further disentangle the causal ordering of the different variables involved.

Conclusion

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 psychosocial adjustment, and the relations between the identity styles and autonomy-supportive parenting were found to be style-bound. 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 adjustment 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 underlying 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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