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Social–psychological profiles of identity styles: attitudinal and social-cognitive correlates in late adolescence

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Abstract

This study examined the relationships between three identity styles (i.e. the information style, the normative style, and the diffuse/avoidant style) and a number of social-cognitive and attitudinal variables (including empathy, prejudice, and conservatism). Discriminant analysis on a sample of late adolescents ($N=393$) led to the conclusion that two classes of variables differentiate between the three identity styles. Maladaptive coping strategies and, to a lesser extent, low empathy distinguished mainly between the information style and the normative style on the one hand and the diffuse/avoidant style on the other hand. Need for closure and measures of prejudice and conservatism differentiated primarily between the normative style and the two other styles. These two classes of variables can be related to two basic dimensions in current theory on adolescents' identity styles, that is, active vs. superficial processing of information and adherence to traditional opinions vs. openmindedness.

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Introduction

In the past, empirical research on Erikson's theory of identity development has been guided by the identity status paradigm outlined by Marcia (1966, 1967, 1980, 1982). In that paradigm, identity development was thought to result from two basic dimensions, that is, exploration and commitment. Exploration was defined as the degree to which an individual engages in a personal search for values, beliefs, and goals, and the process of exploration implies experimenting with different social roles, plans, and ideologies. Commitment refers to the determined adherence to a set of convictions, goals, and values. Based on these dimensions, Marcia (1966) defined four identity statuses: achievement (high on both commitment and exploration), moratorium (low commitment, high exploration), foreclosure (high commitment, low exploration) and diffusion (low on both commitment and exploration).

Marcia's model has inspired an impressive body of research on identity development (for reviews, see Marcia, 1980; Waterman, 1982; Meeus, 1996; Berzonsky & Adams, 1999). However, the identity status paradigm focuses primarily on the outcomes of the process of identity formation, that is, it describes identity mainly in terms of enduring outcomes and stable, dispositional characteristics (Côté, & Levine, 1988; van Hoof, 1999). Therefore, a number of authors proposed social-cognitive approaches to identity development (Berzonsky, 1989, 1990; Kerpelman, Pittman, & Lamke, 1997; Bosma & Kunnen, 2001), which focus on the information-processing styles that determine identity development rather than on the outcomes of this development. The model of Berzonsky, for instance, postulates reliable stylistic differences in how individuals approach identity-relevant tasks and problems. More specifically, Berzonsky (1990) proposed three identity styles: the information style, the normative style and the diffuse/avoidant style. This model takes the most prominent place in recent empirical research on these social-cognitive approaches to identity formation. An important limitation of past research, however, is that most studies either focused on variables distinguishing between the information style and the normative style or between the information style and the diffuse/avoidant style. The main aim of the present study, therefore, is to determine the basic dimensions that distinguish between these three identity styles, and to empirically investigate the discriminative power of these dimensions simultaneously. In doing so, we aim to replicate and validate a number of relationships that have been established in previous research (such as relationships with coping styles and need for closure), but we also extend the study of identity styles by relating them to variables from the domain of prejudice and conservatism (such as authoritarianism, social dominance orientation, and empathy). In order to frame our hypotheses, we will first introduce the model of Berzonsky (1990) and review the empirical literature on identity styles.

Identity style theory

The identity styles proposed by Berzonsky (1990) are presented as social-cognitive styles in general and as ways of processing identity-relevant information, making personal decisions, and approaching identity-relevant problems in particular. As such, these styles are thought to be important determinants of an individual's identity (Berzonsky, 1990). More specifically, according to Berzonsky (1990), the information-oriented style is preferred by individuals in the moratorium

and achievement statuses, the normative style is the underlying social-cognitive style of the foreclosure status, and the diffuse/avoidant style is mainly used by late adolescents in the diffusion status. In general, this convergence between identity statuses and identity styles has been empirically confirmed (Berzonsky, 1992b; Streitmatter, 1993; Berzonsky & Niemeyer, 1994; Berzonsky & Kuk, 2000; Schwartz, Mullis, Waterman, & Dunham, 2000; Berman, Schwartz, Kurtines, & Berman, 2001).

An *information style* is typical of adolescents who engage in a process of exploration by seeking out and evaluating information that is relevant for their identity before making committed decisions. According to Berzonsky (1990), these adolescents are critical towards their self-concepts, open to new information, and willing to revise aspects of their identity when faced with discrepant information about themselves. This should result in a well-differentiated and integrated sense of personal identity (Berzonsky, 1990, 1992b, 2002). In sum, this identity style is characterized both by (a) high levels of self-reflection and active information-processing and (b) by openness towards new information.

A *normative style* is typical of adolescents who rely on the norms and expectations held by significant others (such as parents and authority figures) when confronted with identity-relevant information or problems. According to Berzonsky (1990, 2002), these individuals are “closed” to information that threatens their hard-core values and beliefs and they attach a lot of importance to preserving their rigidly organized and committed identity. In sum, they are hypothesized to have inflexible belief and value systems and to conform to traditional and conservative opinions.

A *diffuse/avoidant style* is typical of adolescents who avoid personal issues and procrastinate decisions until situational demands dictate their behaviour. These individuals would accommodate their identity in function of the changing social demands, without arriving at a well-established identity. According to Berzonsky (1990), this identity style results in a fragmented and loosely integrated identity structure. Most characteristic of the diffuse/avoidant identity style is a low level of active information processing and problem-solving.

It follows from these descriptions that the three identity styles can be differentiated on the basis of two underlying dimensions. Based on the theory of Berzonsky (1989, 1990), these dimensions can be labelled as ‘active/thorough vs. superficial processing of identity-relevant information and problems’ and ‘adherence to traditional opinions vs. openmindedness/liberal thinking’. Whereas the former dimension would differentiate primarily between the information-oriented and the diffuse/avoidant identity styles, the latter dimension is hypothesized to differentiate primarily between the information-oriented and the normative identity style. In the following section, we will review the empirical literature on identity styles from this theoretical viewpoint.

Correlates of identity styles

Active/thorough vs. superficial processing of information and problems

A number of studies indicated that measures of adaptive vs. maladaptive information processing differentiate primarily between the information style and the diffuse/avoidant style. Berzonsky and Ferrari (1996), for instance, found that adolescents in the information identity style group show a high degree of cognitive complexity, and employ a vigilant and systematic

processing style in decisional situations. In contrast, adolescents in the diffuse/avoidant identity style group show a low degree of cognitive complexity, and they tend to panic and procrastinate in decisional situations. Likewise, Berzonsky, Nurmi, Kinney, and Tammi (1999) found that individuals using the information identity style engaged in adaptive cognitive and attributional strategies (such as high success expectations and little task-irrelevant behaviour), whereas individuals in the diffuse/avoidant identity style group relied on maladaptive attributional strategies (such as self-criticism). Furthermore, recent data indicate that youngsters using an information style favour analytical, rational ways of processing information (Berzonsky, 2002). In contrast, a diffuse/avoidant style is negatively related to rational ways of processing information. Individuals with high scores on the normative identity style showed a mixture of information-processing styles.

Coping strategies were also found to differentiate primarily between the information style and the diffuse/avoidant style. The information style was found to relate to the more adaptive coping strategies, that is, problem-focused and social support-seeking strategies. The diffuse/avoidant style was found to relate to less adaptive strategies, that is, avoidance and emotion-focused coping tactics (such as distancing, wishful thinking, and tension reduction). The normative style also appeared to relate to less adaptive coping strategies (i.e. avoidance), although to a lesser extent than the diffuse/avoidant style (Berzonsky, 1992c; Berzonsky & Adams, 1999).

The body of research reviewed so far indicates that the information identity style relates to active, adaptive social-cognitive strategies, the diffuse/avoidant style relates to avoidant, maladaptive strategies, and the normative style falls in between these two. From these findings, significant differences in adaptive psychological functioning between the information style and the diffuse/avoidant styles can be expected with respect to a variety of life domains. This expectation was confirmed by Berzonsky and Kuk (2000) who found the information style to relate to positive feelings of autonomy and educational purpose in the academic domain and to mature interpersonal relationships. In contrast, the diffuse/avoidant style was negatively related to these indices of mature and adaptive psychological functioning.

Adherence to traditional and conservative opinions vs. openmindedness/liberal thinking

A number of social-cognitive variables, particularly concerning the degree of experiential openness, have been found to differentiate primarily between the information style and the normative style. Consistent with Berzonsky's (1990) model, late adolescents high on the information style show high levels of (a) openness to information about themselves and aspects of their personal identity (as operationalized by measures such as introspectiveness and emphasis on one's personal identity) (Berzonsky & Sullivan, 1992; Berzonsky, 1994) and (b) openness to information in general (as operationalized by measures such as need for cognition, openness to ideas, feelings and fantasies and the Big Five-factor openness to experience) (Berzonsky & Sullivan, 1992; Dollinger, 1995; Duriez, Soenens, & Beyers, 2004). In contrast, individuals using a normative style show higher levels of need for structure and need for closure (Berzonsky & Adams, 1999; Berzonsky, 2002) and lower levels of openness to values, actions, and fantasies (Berzonsky & Sullivan, 1992; Duriez et al., in press). Furthermore, adolescents using a normative style were found to use defence mechanisms that distort reality (Berzonsky et al., 1999). Similar findings have been obtained within the identity status paradigm. Cramer (1995), for instance,

showed that whereas foreclosure is associated with defensive narcissism, achievement relates to more adaptive forms of narcissism. Moreover, when confronted with invalidating information, normative-oriented adolescents applied a hypothesis-maintenance (or assimilation) strategy, that is, a confirmatory bias that served to protect the hypothesis from being evaluated (Berzonsky, 1999). These studies are in line with the idea that individuals using an information style are characterized by openness to (identity-relevant) information, whereas individuals using a normative style are closed to information that may threaten hard-core aspects of the self such as values and belief systems (Berzonsky, 1990, 1992b, 2002; Berzonsky & Sullivan, 1992).

The present study

Whereas the majority of the studies reviewed in the preceding section focuses on only one of the two dimensions which underlie differences between the identity styles, the general aim of the present study is to examine whether the identity styles can be differentiated on the basis of the two dimensions simultaneously. As a marker of the first dimension, we selected coping strategies. Based on Berzonsky (1992c), we expect positive relations between the information style and active, problem-focused coping and between the diffuse/avoidant style and emotion-focused/avoidance coping. As a marker of the second dimension, we selected need for closure. Based on both earlier findings (Berzonsky & Adams, 1999; Berzonsky, 2002) and Berzonsky's (1990) theory, we expect the normative identity style to relate positively and the information identity style to relate negatively to need for closure. In addition to this general aim, an important purpose of the present study is to extend research on identity styles into the domain of prejudice and conservatism.^a

Prejudice and its determinants

According to McFarland (1998), people's predisposition towards prejudice consists of three categories of personality characteristics, that is, lack of empathy, authoritarianism, and social dominance orientation. According to Davis (1983), lack of *empathy* implies an inability (a) to feel sympathy for other people experiencing misfortune, (b) to view things from the perspective of others, (c) to experience discomfort when confronted with the suffering of others, and (d) to become involved with imaginative characters in general. According to Duckitt (2001) and Duckitt, Wagner, du Plessis, and Birum (2002), *right-wing authoritarianism* is driven by feelings of fear and being threatened. These feelings generate self-protective, defensive motivational needs for social control and security. *Social dominance orientation*, in contrast, is driven by a view of the world as a competitive jungle characterized by a ruthless, amoral struggle for power and resources

^aIn the area of prejudice and conservatism, two general lines of research can be distinguished. The first has viewed prejudice as resulting from group processes (e.g. Tajfel & Turner, 1986). The second has regarded it as a result of dispositional factors making people more or less likely to adopt prejudice (e.g. Adorno et al., 1950; Altemeyer, 1981; Duckitt et al., 2002). Because the focus of the present paper is on individual differences in identity styles, attention was restricted to the latter approach. The former approach, however, clearly also deserves attention in future research. Individual differences in identity styles, in addition to being related to prejudice dispositions, may also be associated with different reactions to group processes.

in which the fit succeed and the unfit fail. This view generates self-enhancement motives for status, power, superiority and dominance. Although initial conceptualizations (Adorno, Frenkel–Brunswick, Levinson, & Sanford, 1950; Altemeyer, 1981) failed to distinguish between the latter two constructs, recent research has led to the conclusion that right-wing authoritarianism and social dominance orientation constitute different prejudice dispositions (Altemeyer, 1998; Duriez & Van Hiel, 2002; Duriez, Van Hiel, & Kossowska, in press; Lippa & Arad, 1999; McFarland & Adelson, 1996; McFarland, 1998, 1999).

Individual differences in these three characteristics are described by McFarland (1998, 1999, 2001) and McFarland and Adelson (1996) as the “three pillars” or the “Big Three” of prejudice. In general, prejudice involves the tendency to negatively evaluate and reject an out-group and its members. This tendency may take on different forms, including racism (i.e. prejudice towards ethnic groups), homophobia (i.e. prejudice towards individuals with a different sexual orientation), and cultural conservatism (i.e. prejudice towards non-traditional ways of life) (McFarland, 1998). Therefore, in the present study, measures of both the “Big Three” and the three forms of prejudice described were included.

Although the relationships between Berzonsky’s identity styles and these social–political attitudes have not been examined previously, some studies have addressed links between Marcia’s identity statuses and measures of conservatism and prejudice. From a series of studies by Marcia (1966, 1967, 1970) on the relationship between identity statuses and authoritarianism, it was concluded that foreclosures are the most endorsing of authoritarian values among the identity statuses (Podd, 1972; Marcia, 1980). More recently, Fulton (1997) reported positive relations between the foreclosure status and anti-black and anti-homosexual prejudice. Based on the convergence between the foreclosure status and the normative identity style, it was expected that the normative style would be positively related to our measures of prejudice and to both authoritarianism and social dominance orientation. Conversely, we expected to find negative relationships between the information identity style and these measures.

For empathy, or lack thereof, a different hypothesis was posited. Earlier research with the identity status paradigm suggests that empathic concern differentiates most strongly between the “higher level” identity statuses (i.e. achievement and moratorium) and the diffusion status (Erlanger, 1998). Furthermore, because earlier research reported differences between the information style and the diffuse/avoidant style with respect to (a) level of complexity in processing information (which seems a prerequisite for empathy in general and adequate perspective taking in particular) and (b) level of maturity in interpersonal relationships (Berzonsky et al., 1999; Berzonsky & Kuk, 2000), we would expect empathy to be negatively associated with the diffuse/avoidant identity style. Conversely, we expected to find a positive relationship between empathy and the information-oriented identity style.

Apart from examining the relationships between the identity styles and each of the social-cognitive or attitudinal variables separately, we will examine whether the three identity styles can be differentiated on the basis of the two dimensions proposed in this introduction by means of a discriminant analysis. Based on our review of the literature, it is hypothesized that a first function, labelled “active/thorough vs. superficial processing of information”, as indicated by the level of active vs. avoidant coping, and further defined by the level of empathy, will discriminate primarily between the information-oriented style and the diffuse/avoidant identity styles. It is further hypothesized that a second function, labelled “adherence to traditional/conservative opinions vs.

openmindedness/liberal thinking”, as indicated by the level of need for closure, and further defined by authoritarianism, social dominance orientation, and specific forms of prejudice, will discriminate primarily between the information style and the normative style.^b

Method

Participants and procedure

Participants were first-year psychology students from a large university in the Dutch-speaking part of Belgium (Europe). Of the 460 students that were invited to participate, 393 agreed to participate, resulting in a response rate of 85%. Their age ranged from 17 to 25 years with a mean of 18 years. The majority of the students was female (80%). The unbalanced gender distribution in the sample mirrored the distribution in the student population of the Psychology department involved. All participants were Dutch-speaking and of Belgian nationality. Students completed the questionnaires in two large groups (each of about 200 students) during a 1-h collective session. They received course credit for participation. Anonymity was guaranteed.

Measures

All measures used in the present study were in Dutch, the participants’ mother tongue. Items were always scored on 5-point Likert scales, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Identity styles: Participants completed a Dutch version of the revised Identity Style Inventory (ISI3; Berzonsky, 1992a). The ISI contains the information identity style scale (10 items, e.g. “I’ve spent a great deal of time thinking seriously about what I should do with my life”), the normative identity style scale (10 items, e.g. “I prefer to deal with situations where I can rely on social norms and standards”), and the diffuse/avoidant identity style scale (10 items, e.g. “I’m not really thinking about my future now; it’s still a long way off”). Estimates of internal consistency (Cronbach’s alpha) were .70, .62, and .74 for the information style scale, the normative style scale, and the diffuse/avoidant style scale, respectively. Although the reliability estimates of the three scales were rather modest, they were in line with the reliability data provided by Berzonsky (1992c).

Coping styles. Participants completed a Dutch version of the revised Ways of Coping Checklist (WCC, Vingerhoets & Flohr, 1984; Vingerhoets, 1985). Instructions asked them to answer each item in terms of how they coped with a specific self-named stressful situation. On the basis of

^bIt is important to note that, although racism and cultural conservatism were used as indicators of the same underlying discriminant function, conservatism and racism are distinct concepts. Moreover, both conservatism and liberalism may be associated with racism, although expressed in a different form. For instance, Nail, Harton, and Decker (2003) have shown that whereas political conservatism tends to manifest itself in symbolic or modern racism (i.e. an attitude whereby overt racism is rejected but negative feelings towards minority members is reconfigured into attitudes about social policies and justifiable discrimination), liberalism tends to be expressed as aversive racism (i.e. an ambivalent attitude characterized by the recognition of non-prejudiced and egalitarian values on the one hand and a largely non-conscious adherence to negative feelings against minority members on the other hand).

Cattell's scree test (Cattell, 1966), a principal component analysis (PCA) on the WCC-items yielded three components. These components were interpreted in terms of the theory of Lazarus and Folkman (1984). According to these authors, problem-focused coping refers to efforts to manage or alter the troubled person–environment relationship. Emotion-focused coping refers to efforts to regulate emotional distress. These efforts may entail purely emotion-focused strategies in which problems are cognitively reappraised (e.g. positive comparisons or minimization of problems) or avoidance strategies which facilitate reappraisal but are not themselves reappraisals (e.g. selective attention, distancing, meditation, or the use of alcohol). The first component, *emotion-focused coping*, had an eigenvalue of 6.29, explaining 9% of the common variance. The second component, *problem-focused coping*, had an eigenvalue of 6.23, explaining an additional 9% of the common variance. The third component, *avoidance coping*, had an eigenvalue of 5.90, again explaining 9% of the common variance. Unweighted mean scores of the items loading significantly on these three components were computed. Estimates of internal consistency (Cronbach's alpha) were .82, .85 and .80 for problem-focused coping, emotion-focused coping and avoidance coping, respectively.

Empathy: Participants completed a Dutch version (Duriez, in press) of the Interpersonal Reactivity Index (Davis, 1983). A sample item is: "I often have tender, concerned feelings for people less fortunate than me." Cronbach's alpha for the general empathy score (28 items) was .81.

Need for closure: Participants completed the authorized Dutch version (Cratylus, 1996) of the Need for Closure scale (NFC, Webster & Kruglanski, 1994). A sample item reads: "I dislike questions which could be answered in many different ways". Cronbach's alpha of the total Need for Closure scale (42 items) was .84.

Racism: The racism scale that was administered (Billiet & De Witte, 1991) assessed both xenophobia and racism. An example of a xenophobia item is "In general, immigrants are not to be trusted". An example of a racism item is "We have to keep our race pure and fight mixture with other races". In line with earlier work (Duriez, Fontaine, & Hutsebaut, 2000; Duriez & Hutsebaut, 2000; Duriez, 2004; Duriez, Luyten, Snauwaert, & Hutsebaut, 2002), both of these aspects were found to load on a single component in a principal components analysis. Cronbach's alpha for this 9-item racism scale was .88.

Right-wing authoritarianism: An 11-item right-wing authoritarianism scale (Altemeyer, 1981, transl. by Melen, 1991) was administered. A sample item is: "Obedience and respect for authority are the most important virtues children should learn". Cronbach's alpha was .71.

Social dominance orientation: A 14-item social dominance orientation scale (Pratto, Sidanius, Stallworth, & Malle, 1994, transl. by Van Hiel & Duriez, 2002) was administered. A sample item reads: "It's probably a good thing that certain groups are at the top and other groups are at the bottom". Cronbach's alpha was .87.

Cultural conservatism: Cultural conservatism relates to the endorsement of traditional values and norms as opposed to the freedom to arrange life according to one's own insights. Cultural conservative ideology thus favours issues such as an authoritarian parent–child relationship, traditional work ethic, and conventional female roles (see Middendorp, 1978). A sample item is: "Women should do the household and men should go out making money". The Cronbach's alpha for the 12-item cultural conservatism scale that was administered (De Witte, 1990; Duriez, Luyten, Snauwaert, & Hutsebaut, 2002a,b Duriez et al., 2002a,b) was .75.

Attitudes towards homosexuality: Finally, a 10-item scale tapping attitudes towards homosexuality (Kite & Deaux, 1986) was administered. Higher scores reflected more negative attitudes toward homosexuality. A sample item is: “I would not mind having homosexual friends” (reverse coded). Cronbach’s alpha for this homophobia scale was .86.

Results

Correlations within and across constructs

Correlations among all variables included in this study are presented in Table 1. Due to the large sample size, our analyses attained high power. To preclude that small effects were flagged as significant, an alpha-level of .01 was used in all of our correlational analyses. With respect to coping, we found that the three coping strategies were not intercorrelated. The coping strategies were furthermore uncorrelated with need for closure, and, with the exception of two significant correlations (i.e. significant negative correlations between problem-coping on the one hand and both racism and social dominance orientation on the other hand), they did not correlate significantly with measures of prejudice and conservatism. The coping strategies did, however, correlate significantly with the general empathy scale. Both problem- and emotion-focused coping were positively correlated with empathy, and avoidance coping was negatively correlated with empathy.

Need for closure was not significantly correlated with the general empathy scale. As expected, need for closure correlated positively with each of the measures of prejudice and conservatism. Similarly, empathy correlated negatively with each of these measures. Moreover, as expected, all measures of prejudice and conservatism were positively intercorrelated. Finally, correlations between the identity styles were in line with earlier research. The information identity style was unrelated to the normative identity style and negatively related to the diffuse/avoidant identity style. The normative identity style and the diffuse/avoidant identity style were unrelated.

Correlates of identity styles

As a test of our hypotheses, zero-order correlations between identity styles and social-cognitive or attitudinal variables were computed (see Table 1). First, our hypothesis concerning the relationship between the identity styles and coping strategies was generally confirmed. As expected, the use of an information-oriented identity style was positively correlated with problem-focused coping and negatively with avoidance coping. In contrast, the diffuse/avoidant identity style was positively correlated with avoidance tactics and negatively with problem-focused coping. To a lesser extent, this identity style was also positively correlated with emotion-focused coping. Finally, the normative identity style was positively correlated with problem-focused coping and unrelated to the other coping strategies. Second, the use of the normative identity style was positively associated with need for closure, whereas the information identity style was, to a lesser extent, negatively correlated with this score. The diffuse/avoidant identity style was not significantly correlated with the need for closure scale. Third, associations between the identity styles and empathy confirmed our hypotheses. The information identity style correlated positively

Table 1
Correlations among all variables

Measures	1	2	3	4	5	6	7	8	9	10	11	12
Identity styles												
1. Information style												
2. Normative style	.03											
3. Diffuse/avoidant style	-.44***	-.06										
Information processing												
4. Problem-focused coping	.50***	.24***	-.24***									
5. Emotion-focused coping	.00	-.06	.20***	-.10								
6. Avoidance coping	-.15*	-.07	.56***	-.02	.03							
7. Empathy	.26***	-.02	-.16*	.25***	.26***	-.23***						
Traditional opinions												
8. Need for closure	-.14*	.46***	-.06	-.04	.01	-.11	-.08					
9. Racism	-.30***	.20***	.16*	-.19**	.02	.05	-.28***	.35***				
10. RWA	-.20***	.39***	.01	-.01	-.06	-.05	-.16*	.46***	.51***			
11. SDO	-.28***	.10	.19**	-.21***	.01	.12	-.37***	.25***	.56***	.44***		
12. Cultural conservatism	-.08	.35***	.11	.01	.01	.07	-.16*	.39***	.50***	.63***	.36***	
13. Homophobia	-.18**	.19**	.12	-.13	-.02	.04	-.23***	.23***	.38***	.44***	.35***	.52***

Note. SDO = social dominance orientation; RWA = right-wing authoritarianism.

* $p < .01$. ** $p < .001$. *** $p < .0001$.

with the general empathy score. Moreover, as expected, we found a negative correlation between the use of the diffuse/avoidant style and the general empathy score. As expected, the normative identity style was not significantly correlated with the empathy scale. Our final set of hypotheses pertained to the relationship between the identity styles and measures of prejudice and conservatism. As hypothesized, the use of the information identity style was negatively associated with most (four out of five) measures of prejudice and conservatism. In contrast, we found that the normative identity style correlated positively with most of these measures. In fact, the normative identity style was significantly correlated with all but one of the prejudice measures (i.e. social dominance orientation). Finally, the diffuse/avoidant identity style correlated low but significantly with two measures of prejudice and conservatism, namely racism and social dominance orientation.

Discriminant analysis

In general, our results indicate that, whereas the normative identity style is positively related both to measures of cognitive closure and to measures of conservatism and prejudice, the information identity style is negatively related to these measures. Second, the information style and the diffuse/avoidant style exhibit opposite patterns of correlations with coping styles and with empathy. In order to formally test (a) whether need for closure and measures of conservatism and prejudice are the strongest discriminators between the information style and the normative style and (b) whether coping strategies and empathy are the strongest variables in discriminating between the information style and the diffuse/avoidant style, a discriminant analysis was performed. The aim of this analysis is to determine whether the three identity style groups can be discriminated on the basis of our set of social-cognitive and attitudinal variables, and to examine which discriminators are the most powerful. A descriptive discriminant analysis (DDA) was deemed most appropriate for this purpose (Huberty & Lowman, 1997; Klecka, 1980).

As a preparatory step in performing discriminant analysis, participants were classified in three identity style groups following the recommendations by Berzonsky and Sullivan (1992). Raw scores on the three style scales were standardized, and a participant's highest *z*-score on the three transformed scales was used to designate her or his preferred identity style. As a result of this classification, 131 (33.3%) of the students were information-oriented, 133 (33.8%) normative-oriented, and 129 (32.8%) diffuse/avoidant oriented.

The following 10 variables were entered as discriminating variables in the descriptive discriminant analysis: problem-focused coping, emotion-focused coping, avoidance coping, empathy, need for closure, racism, right-wing authoritarianism, social dominance orientation, cultural conservatism, and negative attitudes towards homosexuality. The results of the descriptive discriminant analysis are presented in Table 2. With three groups, the maximum number of functions yielded by a DDA is two. Our results indicated that both functions were statistically significant. Willk's lambda was .607 for the first function. With Bartlett's *V* we can test whether the centroid difference between the groups on this first function is significant. Bartlett's *V* of the first function is 192.45. This value is distributed as χ^2 with 20 degrees of freedom, which is significant at the .0001 level. Willk's lambda for the second function (.825) was significant as well ($\chi^2(9) = 71.48$; $p < .0001$), indicating that the differences between the three identity style groups can best be described by means of two discriminating functions. These

Table 2

Summary of discriminant analysis: differentiating between the three identity style groups

Predictor variables	Group means			Standardized discriminant coefficient		Structure coefficient	
	Info (<i>n</i> = 128)	Norm (<i>n</i> = 130)	Diffuse (<i>n</i> = 122)	F1	F2	F1	F2
Problem-focused coping	4.35	4.19	3.87	-.72	-.06	-.70	-.10
Emotion-focused coping	3.53	3.50	3.73	.21	-.09	.27	-.11
Avoidance coping	2.83	2.89	3.35	.71	.00	.65	-.09
Empathy	0.27	-0.04	-0.21	-.01	-.10	-.34	-.22
Need for closure	2.91	3.19	2.98	-.14	.78	-.08	.90
Racism	1.81	2.22	2.20	.19	.16	.34	.52
RWA	2.47	2.85	2.61	.03	.43	.05	.74
SDO	2.07	2.29	2.38	.12	-.24	.38	.29
Cultural conservatism	2.23	2.52	2.37	-.10	-.04	.09	.54
Homophobia	1.82	2.15	2.10	.12	.10	.23	.43

Note. RWA = right-wing authoritarianism. SDO = social dominance orientation.

Info = information-oriented identity style. Norm = normative identity style. Diffuse = diffuse/avoidant identity style.

functions had eigenvalues of .36 and .21, respectively. The larger these eigenvalues are, the more variance in the discriminant functions is explained by the groups, and, consequently, the better the groups are differentiated on these functions. Canonical correlations indicate the strength of the association between our set of predictors and the identity style group variable. They are equivalent to *R* in multiple regression. The canonical correlations of the first and the second function were .51 and .42, respectively, which implies that they explained 26% and 17% of the variance in identity style group.

Columns 4 and 5 of Table 2 show the standardized discriminant coefficients, which are similar to beta weights in regression analysis. The larger the magnitude of a variable's coefficient on a function, the greater its contribution to the discriminating power of that function (Klecka, 1980). In Columns 6 and 7 of Table 2, structure coefficients are shown. These coefficients are indicators of the strength of the association between the original variables and the derived discriminant function (Klecka, 1980). Whereas the standardized discriminant coefficients are indicators of the relative discriminating power of a variable, the structural coefficients are particularly useful in the interpretation of the discriminant functions.

Examination of the structure coefficients shows that the first function is defined primarily by high coefficients of problem-focused and avoidance coping. The standardized discriminant coefficients show that these variables are also the most important discriminating variables of this function. Consequently, this function can be interpreted as "superficial (avoidant) vs. active, thorough (problem-focused) processing of information and problems". For Function 2, need for closure and right-wing authoritarianism have the highest structural coefficients, in that order. Inspection of the standardized discriminant coefficients shows that these same two scales also were the strongest discriminating variables of this function. The second function was therefore interpreted as reflecting "adherence to traditional/conservative opinions vs. openmindedness".

Table 3

Mean scores on the canonical discriminant functions (centroids) by identity style

Function	Identity orientation			F (2,377)
	Info (n = 126)	Norm (n = 128)	Diffuse (n = 115)	
(1) Superficial vs. active information processing	-.56c	-.24b	.85a	67.83***
(2) Traditional opinions vs. openmindedness	-.48c	.61a	-.15b	39.88***

Note. Means having the same subscript are not significantly different at $p < .01$ in the Tukey honestly significant difference comparison.

*** $p < .0001$.

To understand how these functions discriminate between the identity style groups, the group centroids were inspected (see Table 3). The group centroids refer to the means of the three identity style groups on the two functions derived. We tested the differences between the identity style groups on these two discriminant functions for their significance by means of two univariate ANOVAs and subsequent post-hoc Tukey comparisons. These pairwise comparisons yielded significant differences for all possible pairs. Our results indicate that adolescents in the diffuse/avoidant group were highest on the “superficial vs. active processing of information and problems” dimension (Function 1). They obtained a significantly higher score on this function than individuals in the normative identity style group, who, in turn scored significantly higher on this function than participants in the information identity style group. Participants in the normative identity style group scored highest on the “traditional/conservative opinions vs. openmindedness” function (Function 2). They scored significantly higher on this function than individuals in the diffuse/avoidant identity style group, who, in turn, had significantly higher scores on this function than individuals in the information identity style group.

Discussion

The findings from this study provide support for the hypothesized links between identity styles on the one hand and social-cognitive factors and measures of prejudice and conservatism on the other hand. It has been shown that the three identity styles can be clearly differentiated from each other by the social-cognitive and attitudinal variables included in this study. Each identity style proved to be associated with a highly specific profile of social-psychological variables.

The *information identity style* was found to be positively associated with problem-focused coping strategies. This finding is consistent with Berzonsky’s (1990, 1992c) model which hypothesizes that information-oriented individuals actively seek out, evaluate, and utilize problem-relevant information when coping with stressors. This identity style was also related to higher levels of empathy, which adds to the growing evidence that information-oriented individuals attain high levels of cognitive complexity and have mature interpersonal relationships (Berzonsky et al., 1999; Berzonsky & Kuk, 2000). Finally, this identity style was negatively correlated with need for closure and with measures of prejudice and conservatism, which is in line

with Berzonsky's (1990) expectation that information-oriented individuals would show high levels of experiential openness and liberal thinking.

The *normative identity style* was positively associated with the need for closure scale, confirming both Berzonsky's (1990) theory and earlier evidence which indicated that individuals using a normative identity style are closed both to personal, identity-relevant information and to information in general (Berzonsky & Sullivan, 1992; Berzonsky & Adams, 1999; Schwartz et al., 2000; Berzonsky, 2002). The normative identity style was also positively associated with most of the measures of prejudice and conservatism. Although this study is, to our knowledge, the first to relate Berzonsky's identity styles to such measures, our findings are clearly in line with Marcia's (1966, 1967, 1970) findings on the positive relationship between foreclosure and authoritarianism. Interestingly, the normative identity style was significantly related to right-wing authoritarianism, but not to social dominance orientation. One important difference between these two dispositions towards prejudice and conservatism can be found in the motives which underlie them: whereas social dominance orientation is characterized by the motive for domineering others, right-wing authoritarianism is mainly characterized by obedience and respect for authorities and the establishment. The finding that the normative identity style relates only to right-wing authoritarianism indicates that this identity style is characterized by a passive, submissive, obedient orientation towards important authority and identification figures, rather than by an active, assertive, domineering way of relating to others. This finding is consistent with Berzonsky's description of normative oriented individuals as reliant on authorities and significant referent groups, as reactive rather than active and as determined by social forces rather than self-determined (Berzonsky, 1990, 1992b, 2002; Berzonsky & Sullivan, 1992; Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2004). Finally, the normative identity style was positively associated with problem-focused coping strategies, although to a lesser extent than the information identity style.

Finally, the *diffuse/avoidant identity style* was strongly related to avoidance coping tactics, and to a lesser extent, to emotion-focused coping. Both these coping strategies are considered as less adaptive ways of coping with problems and stress (Lazarus & Folkman, 1984). This result provides evidence for Berzonsky's (1990) theory, which described individuals with a diffuse/avoidant identity style as procrastinating and delaying decisions in stressful circumstances as long as possible. It is also in line with the study of Berzonsky (1992c), in which it was found that late adolescents with a diffuse/avoidant identity style employed predominantly avoidant-oriented coping strategies (such as wishful thinking and distancing). Finally, based on research discussed earlier (Erlanger, 1998; Berzonsky et al., 1999; Berzonsky & Kuk, 2000;), we expected that this identity style would also be negatively associated with empathy. Although this expectation was confirmed, the correlation observed was moderate.

Although the correlational findings yielded a well-interpretable pattern, it is difficult to conclude from these findings which variables are the most important in differentiating between the identity styles. The results of our discriminant analysis shed more light on the contribution of the social-cognitive and attitudinal variables in differentiating between the three identity styles. Participants in the information style group and in the diffuse/avoidant style group could be clearly differentiated by the coping strategies they use, with individuals using an information identity style showing a preference for problem-focused coping strategies and individuals using a diffuse/avoidant identity style showing a preference for avoidance coping tactics. Somewhat unexpected

was the finding that the normative identity style group showed a significantly greater preference for problem-focused coping than individuals in the diffuse /avoidant identity style group. In fact, with respect to coping strategies, the normative identity style group leaned more closely towards the (problem-focused, adaptive) profile of the information-oriented identity style group than towards the diffuse/avoidant identity style group. This is in contrast with earlier research which has shown that the normative identity style relates to less adaptive coping strategies, such as avoidance (Berzonsky, 1992c; Berzonsky & Adams, 1999). One possible explanation for this difference between Berzonsky's (1992c) study and the present study, is that both studies used a different questionnaire to assess coping styles (the Ways of Coping Questionnaire (WCQ) in Berzonsky's (1992c) study vs. the Ways of Coping Checklist (WCC) in the present study), and a different approach to creating scales of coping styles. Whereas Berzonsky (1992c) assigned items of the WCQ to the scales on an a priori basis, we based our scales on an exploratory principal components analysis of the WCC. Still, the general pattern of findings confirms our expectations and earlier research on this topic.

Participants in the information style group and the normative identity style group were best differentiated by a second discriminant function, which is a composite of need for closure and some measures of prejudice and conservatism, the most important of which was authoritarianism. As hypothesized, individuals categorized in the normative identity style group show significantly higher scores on measures of cognitive closure and authoritarian submission than individuals categorized in the information identity style group.

In sum, evidence was obtained for Berzonsky's identity style theory, which posits that the three identity styles can be differentiated on the basis of two underlying dimensions, one referring to the degree of active processing of identity-relevant information and problems, and one referring to the adherence to traditional and conservative belief systems. The present study is the first to examine the two underlying dimensions of the three identity processing styles simultaneously. Distinguishing between these two underlying dimensions provides an integrative framework for future studies on identity styles. Our study points to the need to make theory-based predictions on how variables will differentiate between the three identity styles. For instance, in the present study, measures of prejudice and conservatism were for the most part identified as indicators of the 'adherence to traditional opinions' dimension, which allowed us to predict that these measures would primarily differentiate between the information style and the normative style. Moreover, from the present study it follows that it is advisable to make use of "marker variables" (such as need for closure and coping styles in this study) in order to detect the two basic dimensions underlying differences in identity styles. With respect to the latter point, it should be stressed that our marker of the first dimension, namely problem-focused coping, was only an indirect indicator of the 'active vs. superficial processing' dimension. Although it seems reasonable to assume that problem-focused coping requires greater depth of processing than avoidant coping, future studies may use more direct markers of this dimension such as measures of cognitive complexity.

This study is also the first to show that Berzonsky's identity styles are substantially related to measures of prejudice and conservatism. Apart from the theoretical relevance of these findings, the significant role of identity processing styles in the prediction of prejudice has practical implications as well. Adolescents' social-cognitive identity processing styles may be more susceptible to change than their identity status, which is less likely to change because it is largely determined by their level of commitment. Consequently, it could be hypothesized that, by

promoting an informational identity style, adolescents can be taught to deal with societal issues in a more open and tolerant way. Recent forms of cognitive therapy may be particularly suited for this purpose (Williams, Watts, MacLeod, & Mathews, 1997). For instance, individuals with a normative processing style are known to approach identity-relevant issues in an undifferentiated, defensive, and rigid fashion (Berzonsky, 2002). Through cognitive interventions, these individuals may be taught to think more in terms of specific and differentiated actions and events, which may lead them to take a more open, liberal stance towards out-groups and minority members. Promoting an information-oriented identity style may therefore provide us with the possibility to deal in a more effective way with the societal problems associated with conservatism and prejudice.

Limitations and suggestions

One important limitation of the present study is that all measures included were self-reports. This implies that some of our findings might be influenced by shared method variance. It would be useful for future research to rely not only on self-report questionnaires to examine the correlates of Berzonsky's identity styles, but also on observational measures, such as in experiments or laboratory tasks. An example of this approach is the study of Adams, Ryan, Hoffman, Dobson, and Nielson (1985), who investigated the relationships between Marcia's identity statuses and conformity behaviour by means of the experimental procedure developed by Asch (1956). Another example is the study of Podd (1972), in which adolescents' reactions to a Milgram (1961) type of task were used as an indicator of moral conduct.

A second limitation is our sample, which consisted of late adolescent university students. It is unclear to which extent our findings can be generalized to samples of younger adolescents and non-university students. This is a particularly important point with respect to prejudice because past research has shown that both age and educational level are significant predictors of prejudice (e.g. Duckitt et al., 2002; McFarland & Adelson, 1996). Hence, future research may attempt to replicate the findings of the present study in samples of younger adolescents and adolescents with lower levels of education. We anticipate, however, that despite the potential mean differences in prejudice, the structural relationships between identity styles and the social-cognitive variables included in this study will hold across age groups and educational level.

Another limitation of this study is that all measurements were obtained at one point in time. It might be interesting for future research to study Berzonsky's theory from a developmental perspective. This can be accomplished, for instance, by examining how interactions between the social-cognitive strategies and certain life events lead to outcomes in the identity process. In order to examine how the social-cognitive strategies used by adolescents change as a function of changing social demands and life events, longitudinal research guided by Berzonsky's theory would be necessary. This would also allow to evaluate time-lagged changes in both identity styles and their underlying dimensions.

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