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

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Abstract

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

Keywords: identity styles; empathy; prosocial behavior; aggression

Introduction

Emerging adulthood refers to a relatively new conception of human development for the period from the late teens through the twenties, that is, between adolescence and young adulthood (Arnett, 2000). Sweeping demographic shifts have taken place over the past half century that have made late teens and early twenties in industrialized countries not simply a brief period of transition into adult roles, but a distinct period of the life course, characterized by change and exploration of possible life directions (Arnett, 1998). The development of self and identity, cognitive maturity, and interpersonal functioning—changes and challenges that characterize adolescence—continue to be important in emerging adulthood. During this period, in which adult commitments and responsibilities are delayed, exploration as part of identity development that begins in adolescence continues and in fact intensifies through the late teens and the twenties (Arnett, 2000; Luyckx, Goossens, & Soenens, 2006; Valde, 1996; Whitbourne & Tesch, 1985). Erikson (1968) already stated that industrialized societies allow for a

prolonged adolescence in which extended identity explorations can occur, also called the psychosocial moratorium.

At the cognitive level, advances in social cognition and developments towards higher-level moral reasoning during adolescence and emerging adulthood give rise to increased consideration of multiple perspectives and empathy (e.g., Crick et al., 1999; Eisenberg & Fabes, 1998). The social context also changes during adolescence and emerging adulthood. Friendships become more important, exclusive, and intense, and involve more intimate sharing and disclosure. The frequency of peer interactions is higher because adolescents and emerging adults spend more time out of the direct supervision of adults (Hill & Holmbeck, 1986). Moreover, most university students in Belgium, such as the participants of this study, live apart from their parents and only visit their parents during the weekends. That way, relations with peers, which were already important during adolescence, intensify even more during this period. On the positive side, these changes at the interpersonal level give rise to a higher incidence of prosocial behaviors (Fabes, Carlo, Kupanoff, & Laible, 1999). However, increased interaction with peers may also give rise to greater opportunities for displaying antisocial behavior (Lahey, Waldman, & McBurnett, 1999), and for a more frequent and sophisticated use of aggression (Yoon, Barton, & Taiariol, 2004). Although it is generally known that during adolescence and emerging adulthood, these developments in the personal, cognitive, and social domains are inter-connected, relatively few studies have examined associations between variables that play a prominent role in each of these domains. Against this background, the present study adds to the literature on the relation between identity and interpersonal behaviors by testing an integrated model of relations among identity styles, empathy, and interpersonal behaviors. In the following sections, we discuss each set of variables represented in our model and how they are hypothesized to be inter-related.

Berzonsky's Identity Style Model

Most previous research conceptualized personal identity formation in terms of the identity statuses. Marcia (1966) pointed out the importance of two key processes of identity formation: exploration of alternatives and commitment to choices. Based on these two dimensions, people can be assigned to one of four identity statuses: achievement (high exploration/high commitment), moratorium (high exploration/low commitment), foreclosure (low exploration/high commitment), and diffusion (low exploration/low commitment). According to Côté and Levine (1988), Marcia overemphasized the commitment aspect, suggesting that there is something like a fully achieved identity (Bosma & Kunnen, 2001; Soenens & Luyckx, 2003). However, Erikson (1968) stressed that identity development is a never-ending and dynamic developmental process. Other authors (e.g., Luyckx, Goossens, Soenens, & Beyers, 2006), emphasized the need to study more explicitly the identity exploration process. Therefore, the present study examined stylistic differences in the way emerging adults approach the identity exploration task, as conceptualized within Berzonsky's (1990) identity style model.

An identity style refers to the strategy that an individual prefers to use in processing, structuring, utilizing, and revising self-relevant information (Berzonsky, 1990). Three different identity styles are distinguished: The information-oriented, the normative, and the diffuse-avoidant style. Individuals who use an information-oriented style deal with identity issues by actively seeking out, processing, and utilizing identity-relevant information in order to make well-informed choices. In contrast, individuals who

use a normative style follow the normative expectations and prescriptions held up by significant others and reference groups. Finally, individuals who use a diffuse-avoidant style procrastinate personal decisions until they are forced to make a choice by pressuring situational demands.

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

Until now, research has studied predominantly the cognitive and intrapersonal correlates of identity styles at the expense of the interpersonal correlates and outcomes of identity styles. However, a rationale for extending identity style research into the domain of interpersonal behaviors can be found in Erikson's (1968) epigenetic principle. This principle states that the task of identity development lays the foundation for the resolution of the conflict of intimacy versus isolation during late adolescence and young adulthood, that is, emerging adulthood (Arnett, 2000). Based on this principle, it can be expected that qualitative differences in the identity exploration process are relevant to the quality of emerging adults' interpersonal behavior.

Identity Styles and Interpersonal Behaviors

Previous research on the relation between identity and interpersonal behavior primarily looked at only one specific type of interpersonal behavior, such as prosocial behavior (e.g., Hardy & Kisling, 2006), or antisocial behavior (Schwartz, Pantin, Prado, Sullivan, & Szapocznik, 2005). In this study, we examined associations between the identity styles and a broad set of interpersonal behaviors encompassing both adaptive (i.e., prosocial), and potentially disruptive (i.e., aggressive), interpersonal behaviors.

Prosocial Behavior

We expected the three identity styles to be differentially related to prosocial behavior. Prosocial behavior refers to voluntary and socially acceptable behavior that results in benefits for others (Eisenberg, 1982; Ma, Shek, Cheung, & Lee, 1996). We expected the information-oriented style to relate positively to prosocial behavior. Previous research found that adolescents (Ma, Shek, Cheung, & Qi Bun Lam, 2000), and emerging adults (Hardy & Kisling, 2006; Padilla-Walker, McNamara, Carroll, Madsen, & Nelson, 2008), in the achievement status—who are known to typically rely on information-oriented identity processing (Berzonsky, 1989)—rely strongly on interpersonal connections, display high levels of moral reasoning (i.e., postconventional reasoning; Podd, 1972), and engage in more prosocial behaviors. We also expected a positive relation between the normative style and prosocial behavior. Those who use a normative style focus on the normative expectations of significant others, thereby assigning high importance to socially accepted behavior. Consistent with this reasoning, it has been shown that adolescents in the foreclosure status exhibit high frequencies of prosocial behavior (Ma et al., 2000). In contrast, we expected the diffuse-avoidant style to relate negatively to prosocial behavior. Individuals using the

diffuse-avoidant style have been described as hedonistic and self-centered (Berzonsky, 2004), and such a self-absorbed orientation may limit their inclination to engage in prosocial behavior. Consistent with this reasoning, research found that individuals in the diffusion status tended to exhibit low frequencies of prosocial behavior (Ma et al., 2000; Padilla-Walker et al., 2008).

Traditionally, prosocial behavior has been conceptualized as a global construct, that is, as the personal tendency to exhibit a number of prosocial behaviors across contexts and motives (e.g., Rushton, Chrisjohn, & Frekken, 1981). Recent research, however, pays more attention to motives behind behaviors, for instance, the distinction between self-oriented and other-oriented helping (Roth, 2008). *Self-oriented helping* is defined as an egoistic type of helping behavior enacted for the sake of others' approval and appreciation. The helping behavior is not a goal in itself, but a means to enhance one's own self-esteem. Therefore, it is related strongly to nonaltruistic egoistic helping behaviors (Roth, 2008). *Other-oriented helping* is defined as a helping behavior that is performed while paying attention to the other's needs and inclinations, and not with the expectation of receiving external rewards or avoiding externally produced aversive stimuli or punishments. Other-oriented helping can thus be seen as a task orientation rather than an ego orientation, and is more closely related to altruistic helping behaviors (Roth, 2008). Research has indicated that the distinction between both helping behaviors is useful. For instance, self-oriented helping related positively to feelings of internal compulsion to perform prosocial behavior. In contrast, other-oriented helping related positively to more mature and autonomous motives for performing prosocial behavior (Roth, 2008).

Because of the distinction between both helping behaviors, we expected the three identity styles to relate differentially to self-oriented and other-oriented helping. More specifically, we expected the information-oriented style to be related primarily to the other-oriented type of helping. Individuals using an information-oriented style tend to function generally in an autonomous manner, that is, they perceive their behavior as being freely chosen (Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2005), they explore their identity options in a more autonomous way (Smits, Soenens, Vansteenkiste, Luyckx, & Goossens, 2010), and have an open and unbiased outlook on life (Soenens, Duriez, & Goossens, 2005). It was expected that the openness associated with an information-oriented style would translate into opportunities to pay attention to the needs of others without being concerned about the judgment of others (Hodgins & Knee, 2002).

In contrast, we expected the normative style to be related primarily to the self-oriented type of helping. Individuals using the normative style tend to function generally in a controlled manner, that is, they perceive their behavior as being influenced by external forces and demands or internalized imperatives (Soenens et al., 2005), explore identity options in a more controlled way (Smits et al., 2010), and have a closed-minded and defensive attitude towards others (Soenens et al., 2005). The controlled type of functioning associated with a normative style is thought to increase the likelihood of self-worth concerns and ego involvement (Hodgins & Knee, 2002). Therefore, we expect normative individuals only to help others to the extent that the helping behavior serves their ego.

We hypothesized a positive relation between the diffuse-avoidant style and self-oriented helping. Diffuse-avoidant individuals are thought to be oriented toward hedonistic cues, such as popularity and reputation as a means to compensate for the emptiness and lack of direction in their identity (Berzonsky, 2004). Therefore, it seems

plausible that these individuals will only help others if this contributes to their reputation and popularity, and if this helps to impress others. Consistent with this reasoning, it was found that emerging adults in the diffusion status only help others when they can benefit from public recognition (Padilla-Walker et al., 2008).

Antisocial Behavior

We expected the identity styles to be differentially related to antisocial behaviors. Antisocial behavior refers to behavior that violates important norms or laws (Lahey et al., 1999). A subtype of antisocial behavior is aggressive behavior, which refers to behavior intended to harm and which is perceived as hurtful by the victim (Harré & Lamb, 1983). In this study, we focused (1) on physical aggression, such as fighting (Ma et al., 1996), and (2) on relational aggression, which is a form of aggression that involves manipulation and attempts to damage other people's relationships (Crick & Grotpeter, 1995). Thus, we concentrated on two forms of antisocial behavior, that is, an overt and manifest type of aggression and a relatively more covert and insidious form of aggression.

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

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

Given the hypothesized associations between identity styles and interpersonal behaviors, it was also deemed important to investigate underlying mechanisms that possibly link the three identity styles to their specific interpersonal outcomes. Deeper understanding is gained when such processes partially explaining these relations are captured (Preacher & Hayes, 2004). Although evaluating bivariate relations between variables can lend insight into whether a hypothesized relation holds, it cannot address

questions of why and how the relation holds. Investigating third variables permits the investigation of such questions (Fairchild & McQuillin, 2010). It might be useful to know whether the use of a particular identity style leads to, for example, more prosocial behavior through its influence on other socio-cognitive or affective variables. Of course, there are several variables that can be considered to play an intervening role in the relation between identity styles and interpersonal behaviors. In this study, we addressed empathy as an intervening process. Empathy relates closely to the degree of open-mindedness that differentiates mainly between the information-oriented style and the normative style. Empathy also relates closely to the degree of thorough processing of information, in this case with regard to other person's perspective and emotions, that differentiates mainly between the information-oriented style and the diffuse-avoidant style (Soenens et al., 2005). In the following section, we discuss further that it is both theoretically and empirically plausible that empathy may play an intervening role in the associations between identity styles and interpersonal behaviors.

The Intervening Role of Empathy

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

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

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

We expected the normative style to relate negatively to empathy. Previous research found that individuals in the foreclosure status were less likely to integrate information from multiple perspectives and more likely to view others in a stereotyped and biased fashion (Erlanger, 1998; Orlofsky, Marcia, & Lesser, 1973; Read, Adams, & Dobson, 1984; Slugoski, Marcia, & Koopman, 1984). Individuals using the normative style are rigid and closed in their functioning, and, above all, strive to avoid situations and

information that may threaten their beliefs. Given that normative individuals want to protect themselves from having to deal with dissonance-inducing emotional experiences, they are unlikely to display genuine types of empathy. To the extent that they do experience other people's emotional problems and distress, they are likely to feel nervous, tense, and distressed because this represents a threat to their self-views.

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

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

In sum, the general aim of this study was to evaluate the possible intervening role of empathy in associations between identity styles and interpersonal behavior. Specifically, the following three models were compared: (1) a direct effects model (model A) including the identity styles as predictors of the interpersonal behaviors; (2) a full mediation model (model B) in which the identity styles and the interpersonal behaviors are indirectly related through empathy; and (3) a partial mediation model (model C) including both direct and indirect paths. Because it will always be difficult to find variables that fully predict outcomes (Preacher & Hayes, 2004), we expect empathy to partially mediate the relation between identity styles and interpersonal behavior.

Method

Participants and Procedure

The sample consisted of 343 undergraduate psychology students from a large university in the Dutch-speaking part of Belgium. Two participants were excluded because of missing data. The mean age of the participants was 18 years (SD = 1.62), and 80 percent was female. Of the participants, 77 percent came from intact families, 19 percent had divorced parents, and 4 percent came from a family in which one of the parents had deceased. Almost all participants (96 percent) had Belgian nationality. Participation was voluntary, anonymity was guaranteed, and participants received course credit for attending the collective testing session. In accordance with the American Psychological Association (2002) ethical code and the rules of the Internal Review Board of the university where this study was conducted, active informed consent was obtained from all participants, and they were fully briefed about the nature

of the study. None of the students refused participation. Participants completed all measures in group sessions. The first author supervised all of these sessions, which took no longer than 50 minutes. If participants wanted to know the outcome of the study, they could contact the first author. None of the participants did so.

Measures

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

Identity Styles. Participants completed the Dutch version of the identity style inventory—version 4 (ISI-4; Luyckx, Lens, Smits, & Goossens, 2010; Smits et al., 2009). Cronbach's alpha for the information-oriented scale was .79 (seven items, e.g., 'When facing a life decision, I try to analyze the situation in order to understand it'), for the normative scale .67 (eight items, e.g., 'I strive to achieve the goals that my family and friends hold for me'), and for the diffuse-avoidant scale .77 (nine items, e.g., 'I'm not sure where I'm heading in my life; I guess things will work themselves out'). Table 1 shows the correlations among these subscales. The information-oriented style was unrelated to the normative style and showed a weak negative correlation with the diffuse-avoidant style. The correlation between the normative and the diffuse-avoidant style was weak and positive.

Empathy. Participants completed the empathic concern and perspective taking sub-scales from the Dutch version (Duriez, 2004), of the interpersonal reactivity index (IRI; Davis, 1983). Cronbach's alpha for empathic concern was .75 (seven items, e.g., 'I often have tender, concerned feelings for people less fortunate than me'), and for perspective taking .76 (seven items, e.g., 'I sometimes try to understand my friends better by imaging how things look from their perspective'). Preliminary correlation analysis indicated that empathic concern and perspective taking were significantly correlated ($r = .28$, $p < .001$). Because they are also theoretically and empirically related (Davis, 1983; Eisenberg & Fabes, 1992), and because the correlations between both subscales and the other study variables were generally in the same direction, an overall empathy scale was formed by averaging the scores on both scales. The same reasoning and procedure was followed and validated in previous research on empathy (see Carlo et al., 1998; Laible et al., 2000, 2004). Cronbach's alpha for the total empathy scale was .78.

Interpersonal Behavior. Prosocial behavior was measured with six items of the proso-cialness scale for adults (PSA; Caprara, Steca, Zelli, & Capanna, 2005; e.g., 'I try to help others'). These six items were selected from the original 16-item scale because they were found to have the strongest discriminative power in an item response theory (IRT) analysis (Caprara et al., 2005). Cronbach's alpha was .80. To measure the two helping orientations, that is, self- and other-oriented helping, a questionnaire that was recently developed and validated by Roth (2008) was administered. Cronbach's alpha for the self-oriented helping scale (four items, e.g., 'When I am helping another person, I boast about it'), was .64, and for the other-oriented helping scale, .66 (four items, e.g., 'When I help someone else, I try to be attentive to his or her needs'). These two scales were unrelated (see Table 1). Participants completed the six items (e.g., 'I am mean to other people'), of the physical aggression subscale as found in the Achenbach system of

Table 1. Correlations among All Study Variables

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

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

empirically based assessment (ASEBA; Achenbach, 1991; Verhulst, Van der Ende, & Koot, 1996). Cronbach's alpha was .78. Participants also completed the six items (e.g., 'When I am angry with others, I give them the silent treatment'), of the relational aggression scale (RAS; Werner & Crick, 1999). Cronbach's alpha was .72. Prosocial behavior was positively related to other-oriented helping, and negatively to self-oriented helping, physical aggression, and relational aggression. Other-oriented helping was not related to self-oriented helping and negatively related to physical aggression and relational aggression. Self-oriented helping was positively related to physical aggression and relational aggression. Physical aggression and relational aggression were positively related. Correlations between the measures of interpersonal behavior ranged from weak to moderate.

Results

Descriptive Statistics

Table 2 presents the means and standard deviations for the study variables. Via correlation analyses, we examined the associations between age and the study variables. None of the correlations was significant. We then performed a series of ANOVAs to examine whether the study variables differed by gender. As indicated in Table 2, girls reported higher levels of the information-oriented style, empathy, prosocial behavior, and other-oriented helping. In contrast, boys reported higher levels of the diffuse-avoidant style, self-oriented helping, and physical aggression. These findings were in line with previous research that found that females score higher than males on an information-oriented style (e.g., Smits et al., 2008), on empathy dimensions (e.g., Davis & Oathout, 1992; Erlanger, 1998), and on prosocial behavior (e.g., Padilla-Walker et al., 2008). Conversely, males were reported to score higher on the diffuse-avoidant style (e.g., Smits et al., 2008), and to engage more often in antisocial and overtly aggressive behaviors compared with females (e.g., Adams et al., 2001). Because gender was systematically related to the study variables, we controlled for this variable in the primary analyses.

Correlation Analyses

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

Table 2. Descriptive Statistics for the Full Sample and Separately by Gender

Scale	Full sample		Boys	Girls	Gender difference	
	Mean (*SD*)	Observed range	Mean (*SD*)	Mean (*SD*)	*F* (1339)	η²
Information-oriented style	4.05 (.51)	2.29–5.00	3.93 (.46)	4.07 (.52)	4.07*	.01
Normative style	2.58 (.50)	1.25–4.00	2.52 (.56)	2.59 (.48)	.97	.00
Diffuse-avoidant style	2.54 (.60)	1.00–4.33	2.72 (.67)	2.50 (.57)	2.58**	.02
Empathy	3.58 (.46)	1.93–4.93	3.31 (.49)	3.65 (.43)	29.24***	.08
Prosocial behavior	3.98 (.48)	1.67–5.00	3.81 (.57)	4.02 (.45)	10.63***	.03
Other-oriented helping	3.86 (.52)	2.00–5.00	3.68 (.52)	3.90 (.52)	10.14***	.03
Self-oriented helping	2.31 (.59)	1.00–3.75	2.45 (.72)	2.28 (.56)	4.65*	.01
Physical aggression	1.35 (.39)	1.00–3.67	1.56 (.54)	1.30 (.33)	23.52***	.06
Relational aggression	1.85 (.57)	1.00–3.67	1.94 (.60)	1.82 (.57)	2.37	.01

Note: The theoretical range was 1 to 5 in all cases.
* *p* < .05, ** *p* < .01, *** *p* < .001.

with our initial expectations. As expected, empathy was positively related to prosocial behavior and other-oriented helping and negatively to self-oriented helping, physical aggression, and relational aggression.

Primary Analyses

Mplus version 4.0 (Muthén & Muthén, 1998–2006) was used to examine whether the pathways from the identity styles to the interpersonal behaviors were mediated by empathy. Models were evaluated by means of several fit indices: the Satorra–Bentler scaled chi-square statistic (SBS-χ^2; Satorra & Bentler, 1994), should be as small as possible (Hu, Bentler, & Kano, 1992), the root mean square error of approximation (RMSEA; Steiger, 1990), should be below .05 (Browne & Cudeck, 1993), the comparative fit index (CFI; Bentler, 1990), should be above .90 (Hu & Bentler, 1999), and the standardized root mean square residual should be below .10 (SRMR; Kline, 2005). The SBS-χ^2 was applied, which adjusts, usually downward, the obtained model chi-square statistic based on the degree of non-normality.

Following the procedure recommended by Holmbeck (1997) in order to test for mediation, a direct effects model (model A) was tested in a first step. This model was saturated and provided a perfect fit to the data. When the non-significant direct paths were removed, the resulting model had an excellent fit: SBS-χ^2(8) = 9.23, p = .32; RMSEA = .02; CFI = 1.00; SRMR = .02.

In a second step, empathy was included as a mediator in a full mediational model (model B). This model did not provide an adequate fit to the data: SBS-χ^2(15) = 75.80, p < .001; RMSEA = .11; CFI = .88; SRMR = .06. After removing the non-significant path from the normative style to empathy, the SBS-χ^2 difference test yielded no significant difference between model B and the trimmed model B, SBS-χ^2_{diff}(1) = .29, p = .59. Third, a partial mediation model (model C) was tested in which the significant direct paths from the identity styles to the interpersonal behaviors obtained in the trimmed model A were included in the trimmed model B. This resulted in an excellent fit: SBS-χ^2(9) = 9.95, p = .35; RMSEA = .02; CFI = 1.00; SRMR = .02. The SBS-χ^2 difference test revealed that this model fitted the data better than the trimmed model B, SBS-χ^2_{diff}(7) = 63.77, p < .001. The non-significant direct path from the information-oriented style to prosocial behavior was removed, leading to a more parsimonious model (SBS-χ^2(10) = 10.62, p = .39; RMSEA = .01; CFI = 1.00; SRMR = .02). The SBS-χ^2 difference test revealed no significant difference between model C and the trimmed model C, SBS-χ^2_{diff}(1) = .63, p = .42.

According to Holmbeck (1997), two types of intervening effects can be distinguished, that is, mediated effects and indirect effects. Mediation means there is a significant initial relation between the independent and dependent variable that is totally (full mediation) or substantially (partial mediation) reduced after taking the intervening variable into account. An indirect effect means that although there is no initial relation, the independent variable affects the dependent variable through the intervening variable. Sobel's (1982) z test indicates whether intervening effects are significant.

Firstly, empathy fully mediated the relation between the information-oriented style and prosocial behavior. The initial direct path of .18 disappeared after empathy was taken into account (z = 4.39, p < .001). Secondly, empathy partially mediated some other effects. The initial direct path from the information-oriented style to other-oriented helping was reduced from .35 to .23, and the indirect effect was significant (z

Figure 1. Final Model Linking the Identity Styles to the Interpersonal Behaviors through Empathy.
Note: For the sake of simplicity, the associations among the identity styles and among the measures of prosocial and antisocial behavior, which were an integral part of the model, are not displayed. *$p < .05$, **$p < .01$, ***$p < .001$.

$= 3.70$, $p < .001$). The initial direct path from the diffuse-avoidant style to physical aggression was reduced from .22 to .16, and the indirect effect was significant ($z = 2.39$, $p < .05$). The initial direct path from the diffuse-avoidant style to relational aggression was reduced from .25 to .18, and the indirect effect was significant ($z = 2.73$, $p < .01$). Although the initial direct path from the diffuse-avoidant style to self-oriented helping was reduced from .20 to .17, the indirect effect was non-significant ($z = 1.84$, NS). Thirdly, there were indirect effects from the information-oriented style on self-oriented helping ($z = -2.43$, $p < .05$), physical aggression ($z = -3.40$, $p < .001$), and relational aggression ($z = -3.98$, $p < .001$), and from the diffuse-avoidant style on prosocial behavior ($z = -2.77$, $p < .001$), and other-oriented helping ($z = -2.68$, $p < .01$). Figure 1 gives a graphical presentation of the final model.

Discussion

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

Direct Relations between Identity Styles and Interpersonal Behaviors

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

Individuals using a normative style were found to be characterized by a more maladaptive pattern of interpersonal behaviors. Firstly, the normative style did not relate to prosocial behavior, although this was expected based on previous research with the foreclosure status. A possible explanation can be that individuals using a normative style will only engage in prosocial behavior toward people who are confirming their thoughts and values. The theory of Schwartz (1992), who defines values as desirable, abstract goals that apply across situations, contexts, and time, can be useful to describe the differences in results between the information-oriented and the normative style regarding prosocial behavior. Values serve as guiding principles in people's lives, as criteria they use to select and justify actions and to evaluate people and events. Two values that promote the welfare of others are important for our findings, that is, universalism and benevolence. Universalism refers to understanding, tolerance, and concern for the welfare of all people whereas benevolence refers to preserving and enhancing the welfare of people to whom one is close in everyday interactions. It is likely that individuals using the information-oriented style will be more concerned for the welfare of all people because of their more open attitude and thus score higher on universalism. Individuals using the normative style, on the contrary, will be more concerned for people that confirm their thoughts to protect their self-structure and thus score higher on benevolence. The items of the measure of prosocial behavior used in this study refer more to people in general than to people to whom one is close in everyday interactions. This can explain why the information-oriented style was positively related to prosocial behavior whereas no relation was found with the normative style. A suggestion for future research is to specify the items about prosocial behavior for people to whom one is close in everyday interactions, and with whom one shares the same values and beliefs. If such measures were used, we would expect the normative style to relate positively to prosocial behavior.

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

Thirdly, individuals using the normative style tend to use relational aggression, a more subtle and insidious way of manipulating others, rather than physical aggression, which is a more overt form of aggression. Previous research found that individuals using a normative style score high on right-wing authoritarianism, which generates self-protective, defensive motivational needs for social control and security (Duckitt, 2001; Soenens et al., 2005). Authoritarians seek social interactions that they can manipulate and control and that are consistent with their rigid thoughts (Altemeyer, 1981). Also, individuals using the normative style are closed to information that may threaten hardcore aspects of the self, such as values and belief systems (Berzonsky, 1990; Berzonsky & Sullivan, 1992). It seems that relational aggression is used both by

normative individuals and authoritarians to create an interpersonal environment in which only rules of their own belief system are obeyed.

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

The Intervening Role of Empathy

The relations between the information-oriented style and both prosocial behavior and other-oriented helping were at least partially mediated by empathy. Through their sophisticated level of cognitive functioning, individuals using an information-oriented style are able to react to other people with empathy, which in turn can lead to more prosocial behavior and other-oriented helping. In spite of the absence of a direct relation, the information-oriented style was found to relate indirectly to less self-oriented helping, physical aggression, and relational aggression through its positive effect on empathy. These indirect effects suggest that empathy can inhibit or reduce antisocial behavior. In the literature (Evans, Heriot, & Friedman, 2002), two different mechanisms are presumed to underlie these effects. Firstly, the more individuals can take and appreciate the victim's perspective, the more this perspective can be understood and tolerated. This makes the adoption of antisocial behavior less likely (Feshbach, 1978). Secondly, the more individuals show empathic concern, the more the victim's pain will be experienced and shared. Individuals will try to avoid the emotional stress caused by the situation or will try to reduce the victim's suffering, and will therefore inhibit their own antisocial behavior (Eisenberg & Fabes, 1998).

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

These results regarding the intervening role of empathy help us to refine our theory about the relation between identity and interpersonal behaviors, and can positively affect practice (Fairchild & McQuillin, 2010). Interventions that aim to enhance prosocial behavior and reduce antisocial behavior in emerging adults who use a diffuse-avoidant identity style, better not only focus on strategies that may alter this identity style (Schwartz, 2001), but also on strategies that foster their empathic skills. That way, negative consequences of a diffuse-avoidant style, such as problem behavior and poor relationships with peers, may be forestalled (Frey, Hirschstein, & Guzzo, 2000). Previous studies confirm that it is possible to train emerging adults in developing abilities to listen and communicate empathically (Hatcher et al., 1994).

No relation was found between the normative style and empathy. Therefore, empathy could not be considered as a possible intervening variable between the normative style and the interpersonal behaviors. Possibly, in line with the reasoning developed for prosocial behavior, individuals using a normative style may only react with empathy toward people who are confirming their thoughts.

Suggestions for Future Research

Some limitations of the design of this study must be mentioned. Firstly, all measures were self-report instruments. In future research, observational measures or multiple informants should also be included to assess, for instance, the interpersonal behaviors. Secondly, the sample consisted primarily of White Dutch-speaking female psychology students. The question is whether the findings can be generalized to males and other populations of more diverse educational and ethnic background. Thirdly, due to its cross-sectional nature, our study cannot clarify the direction of effects in the associations between identity styles, empathy, and interpersonal behavior. For instance, in this study, empathy was seen as an outcome of identity exploration. However, Erikson (1980) observed that identity development requires the capacity to observe the self in a social context. Therefore, adolescents must utilize all of their cognitive and affective resources to synthesize their identity and define their role in society. Social perspective taking, that is, a complex form of cognitive empathy, could enhance identity by providing multiple perspectives or could lead to role confusion in the absence of cognitive strategies to utilize those same multiple perspectives (Enright & Deist, 1979). Fourthly, for other-oriented helping, the Cronbach's alpha was in line with the estimate obtained by Roth (2008), that is, .66. However, Cronbach's alpha for self-oriented helping was .79 in the study of Roth (2008), but .64 in our study. Although according to Nunnally (1967) and DeVellis (1991), the minimum norm for Cronbach's alpha in research is .60, these values are not very strong, and therefore it is necessary to be careful when interpreting the results. Fifthly, we recognize the possible intervening role of other socio-cognitive and affective variables, such as social problem solving or anger management. Individuals using a diffuse-avoidant style, for instance, might be inattentive to relevant social cues due to the focus on themselves, and they are more likely to interpret social cues in a hostile way, leading to more aggressive behavior (Frey et al., 2000). Individuals using an information-oriented style, for instance, might be more able to manage their emotions and emotion-related behavior due to their cognitive maturity. That way, they are more likely to behave in socially competent ways, leading to more prosocial behavior (Frey et al., 2000).

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

References

Achenbach, T. M. (1991). *Manual for the child behavior checklist/4–18 and 1991 child profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Adams, G. R., Munro, B., Doherty-Poirer, M., Munro, G., Petersen, A. M. R., & Edwards, J. (2001). Diffuse-avoidance, normative, and informational identity styles: Using identity theory to predict maladjustment. *Identity: An International Journal of Theory and Research*, *1*, 307–320.

Altemeyer, B. (1981). *Right-wing authoritarianism*. Winnipeg: University of Manitoba Press.

American Psychological Association (2002). Ethical principles of psychologists and code of conduct. *American Psychologist*, *57*, 1060–1073.

Arnett, J. J. (1998). Learning to stand alone: The contemporary American transition to adulthood in cultural and historical context. *Human Development*, *41*, 295–315.

Arnett, J. J. (2000). Emerging adulthood. A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469–480.

Batson, C. D. (1991). *The altruism question*. Hillsdale, NJ: Erlbaum.

Baumeister, R. F. (1991). *Meanings of life*. New York: Guilford.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238–246.

Berkowitz, L. (1989). Frustration-aggression hypothesis: Examination and reformulation. *Psychological Bulletin*, *106*, 59–73.

Berman, A. M., Schwartz, S. J., Kurtines, W. M., & Berman, S. L. (2001). The process of exploration in identity formation: The role of style and competence. *Journal of Adolescence*, *24*, 513–528.

Berzonsky, M. D. (1989). Identity style: Conceptualization and measurement. *Journal of Adolescent Research*, *4*, 268–282.

Berzonsky, M. D. (1990). Self-construction over the life-span: A process perspective on identity formation. In G. J. Neimeyer, & R. A. Neimeyer (Eds.), *Advances in personal construct psychology* (Vol. 1, pp. 155–186). Greenwich, CT: JAI Press.

Berzonsky, M. D. (2004). Identity processing style, self-construction, and personal epistemic assumptions: A social-cognitive perspective. *European Journal of Developmental Psychology*, *1*, 303–315.

Berzonsky, M. D. (2007). Identity formation: The role of identity processing style and cognitive processes. *Personality and Individual Differences*, *44*, 645–655.

Berzonsky, M. D., & Ferrari, J. R. (1996). Identity orientation and decisional strategies. *Personality and Individual Differences*, *20*, 597–606.

Berzonsky, M. D., & Niemeyer, G. J. (1994). Ego identity status and identity processing orientation: The moderating role of commitment. *Journal of Research in Personality*, *28*, 425–435.

Berzonsky, M. D., & Sullivan, C. (1992). Social-cognitive aspects of identity style: Need for cognition, experiential openness, and introspection. *Journal of Adolescent Research*, *7*, 140–155.

Bosma, H. A., & Kunnen, E. S. (2001). Determinants and mechanisms in ego identity development: A review and synthesis. *Developmental Review*, *21*, 39–66.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & S. J. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.

Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A new scale for measuring adults' prosocialness. *European Journal of Psychological Assessment*, *21*, 77–89.

Carlo, G., Roesch, S. C., & Melby, J. (1998). The multiplicative relations of parenting and temperament to prosocial and antisocial behaviors in adolescence. *Journal of Early Adolescence*, *18*, 266–290.

Carlozzi, A. F., Gaa, J. P., & Liberman, D. B. (1983). Empathy and ego development. *Journal of Counseling Psychology*, *30*, 113–116.

Côté, J. E., & Levine, C. (1988). A critical examination of the ego identity status paradigm. *Developmental Review*, *8*, 147–184.

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, *66*, 710–722.

Crick, N. R., Werner, N. E., Casas, J. F., O'Brien, K. M., Nelson, D. A., et al. (1999). Childhood aggression and gender: A new look at an old problem. In R. A. Dienstbier (Ed.), *Nebraska symposium on motivation: Vol. 45. Gender and motivation* (pp. 75–141). Lincoln, NE: Nebraska University Press.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, *44*, 113–126.

Davis, M. H., & Oathout, H. A. (1992). The effect of dispositional empathy on romantic relationship behaviors: Heterosocial anxiety as a moderating influence. *Personality and Social Psychology Bulletin*, *18*, 76–83.

DeVellis, R. F. (1991). *Scale development: Theory and applications*. Thousand Oaks, CA: Sage.

Duckitt, J. (2001). A dual-process cognitive-motivational theory of ideology and prejudice. In M. P. Zanna (Ed.), *Advances in experimental social psycholog* (Vol. 33, pp. 41–113). San Diego, CA: Academic Press.

Duriez, B. (2004). Taking a closer look at the religion-empathy relationship: Are religious people nicer people? *Mental Health, Religion, and Culture*, 7, 249–254.

Eisenberg, N. (1982). The development of reasoning about prosocial behavior. In N. Eisenberg (Ed.), *The development of prosocial behavior* (pp. 219–249). New York: Academic Press.

Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology*, 51, 665–697.

Eisenberg, N., & Fabes, R. A. (1992). Emotion, regulation, and the development of social competence. In M. S. Clark (Ed.), *Review of personality and social psychology: Emotion and social behavior* (Vol. 14, pp. 119–150). Newbury Park, CA: Sage.

Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In N. Eisenberg, & W. Damon (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 701–778). New York: Wiley.

Enright, R. D., & Deist, S. H. (1979). Social perspective taking as a component of identity formation. *Adolescence*, 14, 517–522.

Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: Norton.

Erikson, E. H. (1980). *Identity and the life cycle*. New York: Norton.

Erlanger, D. M. (1998). Identity status and empathic response patterns: A multidimensional investigation. *Journal of Adolescence*, 21, 323–335.

Evans, M., Heriot, S. A., & Friedman, A. G. (2002). A behavioral pattern of irritability, hostility and inhibited empathy in children. *Clinical Child Psychology and Psychiatry*, 7, 211–224.

Fabes, R. A., Carlo, G., Kupanoff, K., & Laible, D. (1999). Early adolescence and prosocial/moral behavior I: The role of individual processes. *Journal of Early Adolescence*, 19, 5–16.

Fairchild, A. J., & McQuillin, S. D. (2010). Evaluating mediation and moderation effects in school psychology: A presentation of methods and review of current practice. *Journal of School Psychology*, 48, 53–84.

Ferrer-Wreder, L., Palchuk, A., Poyrazli, S., Small, M. L., & Domitrovich, C. E. (2008). Identity and adolescent adjustment. *Identity: An International Journal of Theory and Research*, 8, 95–105.

Feshbach, N. D. (1978). Studies in empathic behavior in children. In B. Mather (Ed.), *Progress in experimental personality research* (Vol. 8, pp. 1–47). New York: Academic Press.

Feshbach, N. D. (1987). Parental empathy and child adjustment/maladjustment. In N. Eisenberg, & J. Strayer (Eds.), *Empathy and its development* (pp. 271–291). New York: Cambridge University Press.

Frey, K. S., Hirschstein, M. K., & Guzzo, B. A. (2000). Second step: Preventing aggression by promoting social competence. *Journal of Emotional and Behavioral Disorders*, 8, 102–118.

Gini, G., Albiero, P., Benelli, B., & Altoè, G. (2007). Does empathy predict adolescents' bullying and defending behavior. *Aggressive Behavior*, 33, 467–476.

Hardy, S. A., & Kisling, J. W. (2006). Identity statuses and prosocial behaviors in young adulthood: A brief report. *Identity: An International Journal of Theory and Research*, 6, 363–369.

Harré, R., & Lamb, R. (1983). *The encyclopaedic dictionary of psychology*. Oxford: Blackwell.

Hatcher, S. L., Nadeau, M. S., Walsh, L. K., Reynolds, M., Galea, J., & Marz, K. (1994). The teaching of empathy for high school and college students: Testing Rogerian methods with the interpersonal reactivity index. *Adolescence*, 29, 961–974.

Hill, J., & Holmbeck, G. N. (1986). Attachment and autonomy during adolescence. In G. Whitehurst (Ed.), *Annals of child development* (Vol. 3, pp. 145–189). Greenwich, CT: JAI Press.

Hodgins, H. S., & Knee, C. R. (2002). The integrating self and conscious experience. In E. L. Deci, & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 87–100). Rochester, NY: University of Rochester Press.

Hoffman, M. L. (1984). Interaction of affect and cognition in empathy. In C. E. Izard, J. Kagan, & R. B. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 103–131). Cambridge: Cambridge University Press.

Hoffman, M. L. (1989). Empathic emotions and justice in society. *Social Justice Research*, *3*, 283–311.

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology*, *4*, 599–610.

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1–55.

Hu, L. T., Bentler, P. M., & Kano, Y. (1992). Can test statistics in covariance structure analysis be trusted? *Psychological Bulletin*, *112*, 351–362.

Kaukiainen, A., Bjorkqvist, K., Lagerspetz, K., Osterman, K., Salmivalli, C., Rothberg, S., et al. (1999). The relationship between social intelligence, empathy, and three types of aggression. *Aggressive Behavior*, *25*, 81–89.

Kline, R. B. (2005). *Principles and practices of structural equation modelling*. New York: Guilford Press.

Lahey, B. B., Waldman, I. D., & McBurnett, K. (1999). The development of antisocial behavior: An integrative causal model. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *40*, 669–682.

Laible, D. J., Carlo, G., & Raffaelli, M. (2000). The differential relations of parent and peer attachment to adolescent adjustment. *Journal of Youth and Adolescence*, *29*, 45–59.

Laible, D. J., Carlo, G., & Roesch, S. C. (2004). Pathways to self-esteem in late adolescence: The role of parent and peer attachment, empathy, and social behaviors. *Journal of Adolescence*, *27*, 703–716.

Loevinger, J. (1976). *Ego development: Conceptions and theories*. San Francisco, CA: Jossey-Bass.

Luyckx, K., Goossens, L., & Soenens, B. (2006). The personality-identity interplay in emerging adult women: Convergent findings from complementary analyses. *European Journal of Personality*, *20*, 195–215.

Luyckx, K., Goossens, L., Soenens, B., & Beyers, W. (2006). Unpacking commitment and exploration: Preliminary validation of an integrative model of late adolescent identity formation. *Journal of Adolescence*, *29*, 361–378.

Luyckx, K., Lens, W., Smits, I., & Goossens, L. (2010). Time perspective and identity formation: Short-term longitudinal dynamics in college students. *International Journal of Behavioral Development*, *34*, 238–247.

Ma, H. K., Shek, D. T. L., Cheung, P. C., & Oi Bun Lam, C. (2000). Parental, peer, and teacher influences on the social behavior of Hong Kong Chinese adolescents. *Journal of Genetic Psychology*, *161*, 65–78.

Ma, H. K., Shek, D. T. L., Cheung, P. C., & Lee, R. Y. P. (1996). The relation of prosocial and antisocial behavior to personality and peer relationships of Hong Kong Chinese adolescents. *Journal of Genetic Psychology*, *157*, 255–266.

Marcia, J. E. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology*, *5*, 551–558.

Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 159–187). New York: Wiley.

Muthén, L. K., & Muthén, B. O. (1998–2006). *Mplus user's guide* (4th ed.). Los Angeles, CA: Muthén & Muthén.

Nunnally, J. C. (1967). *Psychometric theory*. New York: McGraw-Hill.

Orlofsky, J., Marcia, J. E., & Lesser, I. M. (1973). Ego identity status and the intimacy versus isolation crisis of young adulthood. *Journal of Personality and Social Psychology*, *27*, 211–219.

Padilla-Walker, L. M., McNamara, B. C., Carroll, J. S., Madsen, S. D., & Nelson, L. J. (2008). Looking on the bright side: The role of identity status and gender on positive orientations during emerging adulthood. *Journal of Adolescence*, *31*, 451–467.

Pecukonis, E. V. (1990). A cognitive/affective empathy training program as a function of ego development in aggressive adolescent females. *Adolescence*, *25*, 59–76.

Podd, M. H. (1972). Ego identity status and morality: Relations between two developmental constructs. *Developmental Psychology*, *6*, 497–507.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, *36*, 717–731.

Read, D., Adams, G. R., & Dobson, W. R. (1984). Ego-identity, personality, and social influence style. *Journal of Personality and Social Psychology*, *46*, 169–177.

Roth, G. (2008). Perceived parental conditional regard and autonomy support as predictors of young adults' self- versus other-oriented prosocial tendencies. *Journal of Personality*, *76*, 513–533.

Rushton, J. P., Chrisjohn, R. D., & Frekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences*, *2*, 1–11.

Satorra, A., & Bentler, P. M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. Von Eye, & C. C. Clogg (Eds.), *Latent variables analysis: Applications for developmental research* (pp. 399–419). Thousand Oaks, CA: Sage.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1–65). New York: Academic Press.

Schwartz, S. J. (2001). The evolution of Eriksonian and neo-Eriksonian identity theory and research: A review and integration. *Identity: An International Journal of Theory and Research*, *1*, 7–58.

Schwartz, S. J., Mullis, R. L., Waterman, A. S., & Dunham, R. M. (2000). Ego identity status, identity style, and personal expressiveness: An empirical investigation of three convergent constructs. *Journal of Adolescent Research*, *15*, 504–521.

Schwartz, S. J., Pantin, H., Prado, G., Sullivan, S., & Szapocznik, J. (2005). Family functioning, identity, and problem behavior in Hispanic immigrant early adolescents. *Journal of Early Adolescence*, *25*, 392–420.

Slugoski, B. R., Marcia, J. E., & Koopman, R. F. (1984). Cognitive and social interactional characteristics of ego identity statuses in college males. *Journal of Personality and Social Psychology*, *47*, 646–661.

Smits, I., Soenens, B., Berzonsky, M., Luyckx, K., Goossens, L., Kunnen, S., et al. (2009). The identity style inventory—version 4: A cross-national study in scale development and validation. I. Smits (Ed.), *Identity styles in adolescence: Measurement and associations with perceived parenting, personal well-being, and interpersonal functioning* (pp. 57–105). Unpublished doctoral dissertation, Katholieke Universiteit Leuven, Belgium.

Smits, I., Soenens, B., Luyckx, K., Duriez, B., Berzonsky, M. D., & Goossens, L. (2008). Perceived parenting dimensions and identity styles: Exploring the socialization of adolescents' processing of identity-relevant information. *Journal of Adolescence*, *31*, 151–164.

Smits, I., Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2010). Why do adolescents gather information or stick to parental norms? Examining autonomous and controlled motives behind adolescents' identity style. *Journal of Youth and Adolescence*, *39*, 1343–1356.

Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equation models. In S. Leinhart (Ed.), *Sociological methodology* (pp. 290–312). San Francisco, CA: Jossey-Bass.

Soenens, B., Berzonsky, M. D., Vansteenkiste, M., Beyers, W., & Goossens, L. (2005). Identity styles and causality orientations: In search of the motivational underpinnings of the identity exploration process. *European Journal of Personality*, *19*, 427–442.

Soenens, B., Duriez, B., & Goossens, L. (2005). Social-psychological profiles of identity styles: Attitudinal and social-cognitive correlates in late adolescence. *Journal of Adolescence*, *28*, 107–125.

Soenens, B., Duriez, B., Vansteenkiste, M., & Goossens, L. (2007). The intergenerational transmission of empathy-related responding in adolescence: The role of maternal support. *Personality and Social Psychology Bulletin*, *33*, 299–311.

Soenens, B., & Luyckx, K. (2003). Nieuwe ontwikkelingen in onderzoek naar identiteitsvorming [New developments in research on identity formation]. *Kind en Adolescent*, *24*, 188–199.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, *25*, 173–180.

Valde, G. A. (1996). Identity closure: A fifth identity status. *Journal of Genetic Psychology*, *157*, 245–254.

Verhulst, F. C., van der Ende, J., & Koot, H. M. (1996). *Handleiding voor de CBCL/4–18* [Manual for the CBCL/4–18]. Rotterdam: Erasmus University and Department of Child and Adolescent Psychiatry, Sophia Children's Hospital.

Werner, N. E., & Crick, N. R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology*, *108*, 615–623.

Whitbourne, S. K., & Tesch, S. A. (1985). A comparison of identity and intimacy statuses in college students and alumni. *Developmental Psychology*, *21*, 1039–1044.

Yoon, J. S., Barton, E., & Taiariol, J. (2004). Relational aggression in middle school: Educational implications of developmental research. *Journal of Early Adolescence*, *24*, 303–318.