

# The relationships of personal and ethnic identity exploration to indices of adaptive and maladaptive psychosocial functioning

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Identity exploration has often been associated with maladaptive aspects of psychosocial functioning such as anxiety and depression. It is not known, however, whether maladaptive psychosocial functioning is related to both personal and ethnic identity exploration. In the present study, we examined the relationships of personal and ethnic identity exploration to adaptive (self-esteem, purpose in life, internal locus of control, and ego strength) and maladaptive (depression, anxiety, impulsivity, and tolerance for deviance) psychosocial functioning, as well the extent to which these relationships were mediated by identity confusion. A multi-ethnic sample of 905 White, Black, and Hispanic university students completed measures of personal and ethnic identity exploration, as well as of adaptive and maladaptive psychosocial functioning. Current personal identity exploration was negatively associated with adaptive psychosocial functioning and was positively associated with anxiety, depression, and impulsivity. An opposite pattern of relationships emerged for past personal identity exploration. All these relationships were mediated by identity confusion – positively for current exploration and negatively for past exploration. Ethnic identity exploration was not directly associated with psychosocial functioning and evidenced only a weak association through identity confusion. These findings were consistent across gender and across the three ethnic groups studied. Implications for identity theory, research, and intervention are discussed.

Keywords: distress; ethnic identity; ethnicity; identity confusion; identity exploration; personal identity; well-being

Identity has been the subject of widespread theoretical and empirical analysis for more than 50 years. Many identity theorists and researchers trace their work to Erikson's (1950) seminal writings (Schwartz, 2001). Erikson posited identity as a fundamental developmental task of adolescence and the transition to adulthood, and he stated that a coherent and synthesized sense of identity is a necessary prerequisite to meeting the challenges of adulthood (cf. Côté & Levine, 2002). Identity is an important aspect of adaptive psychological functioning (Lerner, Freund, De Stefanis, & Habermas, 2001; Scales, Benson, Leffert, & Blyth, 2000) and is protective against problematic outcomes such as delinquency and substance use (Adams, Munro, Doherty-Poirer, Munro, Petersen, & Edwards, 2001; Jones & Hartmann, 1988). Moreover, in the past half century, many Western countries have become increasingly individualistic, leaving young people more and more responsible for creating their own life paths (Arnett, 1998; Côté, 2000; MacMillan, 1995). As a result, developing a synthesized and coherent sense of identity that can guide one through life has become of paramount importance (Schwartz, Côté, & Arnett, 2005).

Whereas the task of identity development was most likely to be undertaken in adolescence during Erikson's time, the increasing individualization of the life course has resulted in many individuals attending university and prolonging the task

of sorting through and addressing identity issues well into their twenties (cf. MacMillan, 1995). Indeed, many young people do not make firm adult commitments until age 25 or later (Arnett, 2000), instead engaging in a lengthy period of identity exploration during *emerging adulthood* – the late teens and early twenties (Côté, 2000). Emerging adulthood may, therefore, be an important time to study identity exploration and consolidation (Schwartz, 2006, 2007).

Marcia (1966, 1993) has framed the task of identity development in terms of two critical dimensions: *exploration* and *commitment*. In Western cultural contexts, the task of identity development is often undertaken through a process of identity exploration – sorting through various identity elements in an attempt to identify a set of goals, values, and beliefs to which one will commit. The process of exploration is assumed to lead to a set of commitments to which one will adhere for the foreseeable future (Bosma & Kunnen, 2001). Although it is certainly possible to adopt commitments without prior exploration (i.e., the foreclosed identity status; Marcia, 1966), commitments adopted following a period of exploration are often more flexible, more responsive to changing social circumstances, and more strongly associated with the self-direction and agency that is required for successfully navigating through complex and unstructured Western societies (Côté & Levine, 2002; Luyckx, Goossens, Soenens, Beyers, & Vansteenkiste, 2005). Identity exploration is therefore an important component of developing commitments that will sustain the person through the transition to adulthood and beyond. The college atmosphere, in particular, is especially

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conducive for identity development because it exposes the person to a wide array of ideas, options, and alternatives (Montgomery & Côté, 2003).

Identity exploration has been associated with openness and curiosity (Berman, Schwartz, Kurtines, & Berman, 2001; Luyckx, Goossens, & Soenens, 2006), but also, paradoxically, with anxiety, depression, and other forms of maladaptive symptomatology (Kidwell, Dunham, Bacho, Pastorino, & Portes, 1995; Luyckx et al., 2008). Because identity exploration requires loosening, abandoning, or suspending existing commitments (Grotevant, 1987), the instability and uncertainty associated with lack of commitments to important life issues may induce a sense of confusion and disequilibrium that, in turn, leads to maladaptive emotional and behavioral symptomatology. This may be because the identity confusion associated with discarding one's current commitments<sup>1</sup> may be too overwhelming for many individuals. Put another way, sorting through multiple identity elements simultaneously can give rise to a temporary state of confusion, which, if sustained, may result in maladaptive symptoms.

If, as hypothesized, these symptoms may be associated with ongoing exploration, transitioning out of active exploration – whether through making commitments and consolidating a sense of personal identity or through stopping the process prematurely – may reduce or eliminate the symptoms associated with exploration. As a result, individuals who have explored in the past, but are no longer doing so in the present, may report less identity confusion, more positive well-being, and lower levels of symptomatology than individuals who are still exploring.

It is important to define here how the term “identity confusion” will be used. Erikson (1950) spoke of “role confusion,” and Marcia (1966) spoke of “identity diffusion.” Although Marcia's term was intended to serve as an empirical synonym for Erikson's term, there are subtle but important distinctions between them. Erikson's concept of “role confusion” implies a sense of disequilibrium and uncertainty about one's goals, values, and beliefs. On the other hand, Marcia's term of “identity diffusion” implies a lack of concern with identity issues – which may or may not be associated with a sense of disequilibrium and uncertainty. Indeed, Luyckx et al. (2005) empirically identified two types of identity diffusion – one characterized by disequilibrium and uncertainty, and the other by a lack of interest in identity issues. These two types appear to map onto Erikson's and Marcia's definitions of identity confusion, respectively. Given these contentions, it is important to empirically define identity confusion using *both* Marcia's and Erikson's conceptualizations. This is especially relevant with regard to identity exploration. Although identity moratorium represents active exploration and the route to identity consolidation in Marcia's (1966) identity status model, moratorium often relates more strongly to diffusion than to identity achievement (Côté & Schwartz, 2002; Schwartz, Côté, & Arnett, 2005). Moreover, the association of

moratorium with distress and psychopathology (Kidwell et al., 1995; Meeus, 1996) suggests that some form of identity confusion may accompany ongoing identity exploration (i.e., moratorium).

### *The role of ethnicity in identity development*

An additional issue that needs to be addressed in identity research is ethnicity and culture (Schwartz, 2005; Schwartz, Zamboanga, & Weisskirch, 2008). Issues of ethnicity and culture are increasingly important in the United States and other Western countries, which are experiencing an unprecedented wave of immigration from non-Western, collectivist-oriented countries and regions (Donato, Aguilera, & Wakabayashi, 2005; van de Vijver & Phalet, 2004). For example, in the United States, projections suggest that, by 2050, 50% of the population will be nonwhite and that 25% of all Americans are likely to be of Hispanic descent (Day, 1996). These changes are likely to impact American culture in profound ways (Hirschman, 2005). As a result of these demographic shifts, the functions of identity among emerging adults from diverse ethnic backgrounds warrant empirical attention.

Issues of ethnic and cultural diversity carry two important implications for identity research. First, to reflect the increasing diversity of Western countries and to examine the extent to which models of identity development are applicable across ethnicity, individuals from diverse ethnic backgrounds should be included in identity research samples (Sneed, Schwartz, & Cross, 2006); and second, ethnic and cultural identity should be studied in addition to personal identity (Schwartz et al., 2008). Individuals from ethnic and cultural minority groups often face the task of defining who they are at the ethnic-group level as well as at the individual level (Schwartz, Montgomery, & Briones, 2006). As such, they often must develop a personal identity, as well as a sense of ethnic identity, within a multicultural society (Phinney, 1990, 2003).

Ethnic identity refers to (a) the extent to which one has explored the subjective meaning of one's ethnicity or nationality, and (b) the extent to which one values one's ethnic group positively (Phinney, 1992). Phinney's (1992) model of ethnic identity parallels Erikson's model, in that individuals explore what their ethnicity means to them and, following this period of exploration, they commit to a subjective definition of their ethnic group and how much they value or regard that group. One might assume, then, that identity exploration for ethnic minority individuals involves establishing a sense of self both generally and in terms of what their ethnicity means to them. As a result, the ethnic component of identity exploration may relate more strongly to psychosocial functioning for ethnic minority individuals than for Whites.

Not surprisingly, Eriksonian-based personal identity research has been conducted in largely White samples, whereas ethnic identity has been studied largely in ethnic minority samples (Schwartz, 2005). Inclusion of both personal and ethnic identity as correlates in a single study has the potential to bring together these two important aspects of identity that have generally been treated separately (Schwartz et al., 2008). With increasing globalization and representation of ethnic minorities in Western countries, ethnic and cultural identity may be increasingly important for majority as well as minority and immigrant individuals (Berry, Poortinga, Segall, & Dasen, 2002; Jensen, 2003).

Much of what is known about cross-ethnic consistency in

<sup>1</sup> In a post-hoc model, we estimated the relationship between identity confusion and identity commitments, with commitment defined using indices of identity commitments, the identity achieved status, and identity synthesis (see Schwartz, 2006, for more detail on these measures). Results indicated that identity confusion and commitment were almost perfectly negatively correlated ( $r = -.94$ ). This is consistent with Erikson (1950) and Marcia (1966), who argued that committing to social roles and to a set of goals, values, and beliefs serves to alleviate identity confusion.

the associations between identity and its correlates comes from studies of ethnic identity. Research has shown that the structure of ethnic identity is consistent across ethnic groups (Roberts et al., 1999), and that the relationships of ethnic identity to adaptive (Phinney, Cantu, & Kurtz, 1997) and maladaptive (Yasui, Dorham, & Dishion, 2004) aspects of psychosocial functioning appear to be consistent across ethnic groups. With respect to personal identity, the structure of personal identity has been found to be consistent across ethnic groups (Schwartz, Côté, & Arnett, 2005). The relationships of personal identity to anxiety and depression (Schwartz, 2007) may also be consistent across ethnic groups. Clearly, however, more work remains to be done in this area.

### *The present study*

Altogether, the importance of both personal and ethnic identity vis-à-vis psychosocial functioning appears to be equivalent across ethnic groups. However, it is not known whether the confusion and disequilibrium associated with ongoing personal identity exploration would also be associated with ethnic identity exploration. Given that American culture is often considered synonymous with White American values and ideals (DeVos & Banaji, 2005; Tsai, Mortensen, Wong, & Hess, 2002), many White Americans may not view themselves as members of an ethnic group. As such, ethnic identity exploration may be more “optional” for Whites than for members of other ethnic groups. Accordingly, one objective of the present study was to ascertain the extent to which the relationships of both personal and ethnic identity exploration to adaptive and maladaptive psychosocial functioning (through identity confusion, as outlined above) were equivalently salient and strong across ethnic groups. We focus on exploration in the present study because it is considered the primary “vehicle” for identity development in Western contexts, with commitment serving as an outcome of this process (Grotevant, 1987).

As mentioned above, personal and ethnic identity have inspired separate literatures in relation to psychosocial functioning. Only a handful of studies (Branch, Tayal, & Triplett, 2000; Miville, Darlington, Whitlock, & Mulligan, 2005; Miville, Koonce, Darlington, & Whitlock, 2000; St. Louis & Liem, 2005) have included *both* personal and ethnic identity, and no single study has examined the relationships of both personal and ethnic identity to psychosocial functioning. The extent to which identity exploration is associated with anxiety, depression, and other forms of symptomatology has not been investigated with regard to ethnic identity.

Because ongoing identity exploration may be associated with identity confusion and impaired psychosocial functioning, the primary objective of the present study was to examine the relationships of personal and ethnic identity exploration to adaptive and maladaptive psychological functioning – both directly and indirectly through identity confusion – across ethnic groups in a sample of emerging adults. Self-esteem, purpose in life, locus of control, and ego strength have been shown to cluster together as indices of adaptive psychosocial functioning (Côté, 1997; Schwartz, Côté, & Arnett, 2005). Anxiety and depression are important indicators of maladaptive psychosocial functioning in emerging-adult college students because such symptomatology can interfere with resolution of the developmental tasks of emerging adulthood (Allen, Hauser, Eickholt, Bell, & O'Connor, 1994). Impulsiv-

ity and tolerance for deviance are also important indicators to examine because they have been shown to predict a number of maladaptive behavioral outcomes (e.g., substance abuse, criminal involvement; Barnes, Welte, Hoffman, & Dintcheff, 2005; Brook, Balka, Rosen, Brook, & Adams, 2005).

We examined personal identity exploration in both the “present” and “present perfect” tenses, as a way of differentiating ongoing exploration from exploration that may no longer be occurring. When used with action verbs, the present perfect tense (e.g., “I *have* thought about what I might choose for a career”) refers to something that happened at some unspecified point in the past (Language Dynamics, 2007). Because structural equation modeling is an extension of multiple regression (Keith, 2006), regression coefficients for past (present perfect) exploration indicate the relationship of completed or aborted exploration to identity confusion and to psychosocial functioning, controlling for current exploration. To the extent to which present, but not past, exploration is linked with identity confusion or impaired psychosocial functioning, one might conclude that these symptoms are associated specifically with ongoing exploration.

### *Research questions and hypotheses*

We addressed four primary issues in the present study: (a) the relationship of personal identity exploration, both current and past, to psychosocial functioning; (b) the relationships of personal versus ethnic identity exploration to psychosocial functioning; (c) the mediating role of identity confusion in the relationships of personal and ethnic identity exploration to psychosocial functioning; and (d) the consistency of these relationships across ethnic groups.

First, in light of prior research, we hypothesized that both personal and ethnic identity exploration would be associated with psychological distress (Kidwell et al., 1995) and negatively associated with indices of adaptive psychological functioning (Meeus, 1996). Because prior research has not examined the relationship between identity exploration and proclivity toward behavior problems, we treated relationships of exploration to impulsivity and tolerance for deviance as exploratory research questions. We anticipated that current, but not past, personal identity exploration would be associated with identity confusion, negatively associated with well-being, and positively associated with proclivity toward internalizing and externalizing problems. Because the most commonly used measure in the ethnic identity literature, the Multi-Group Ethnic Identity Measure (Roberts et al., 1999), contains both present and past tense exploration items and is too brief to be subdivided into reliable subparts, we were not able to separately examine current and past ethnic identity exploration.

Second, we hypothesized that the relationships of personal and ethnic identity exploration to psychosocial functioning would be mediated by identity confusion. That is, the “side effects” of ongoing identity exploration would operate through a sense of confusion and disequilibrium, which would lead to increased distress and decreased well-being, and perhaps to increased proclivity toward behavior problems.

Third, we hypothesized that the aforementioned relationships would generalize across ethnic groups, given prior research showing that the relationships of personal (Schwartz, Côté, & Arnett, 2005) and ethnic (Phinney et al., 1997; Yasui et al., 2004) identity to aspects of psychosocial functioning are consistent across ethnicity. Although gender was not a focus of

the present study, we also hypothesized that these relationships would be consistent across gender.

## Method

### Participants

Participants in the present study were 905 students (186 men, 719 women) enrolled in psychology, sociology, and human development classes at five American universities. The majority of data were collected from Florida International University (73%) and the University of Massachusetts-Amherst (18%), with smaller amounts collected from the University of Miami (3%), the University of Nebraska-Lincoln (3%), and California State University-Monterey Bay (3%). Florida International University, the University of Miami, and California State University-Monterey Bay have a considerable (40% or greater) representation of minority students, whereas the University of Massachusetts-Amherst and the University of Nebraska-Lincoln are largely (75% or more) White.

The mean age of the sample was 19.84 years ( $SD = 2.14$ ), and all participants were between the ages of 18 and 29. Thirty-four percent of participants were White, 16% were Black, and 50% were Hispanic. The majority of White (91%), Black (77%), and Hispanic (70%) participants were born in the United States. Foreign-born Whites were primarily from Eastern Europe; foreign-born Blacks were primarily from Haiti and Jamaica; and foreign-born Hispanics were primarily from Cuba, Nicaragua, Colombia, and Peru.

### Measures

Responses to all measures were indicated using a 5-point Likert scale with "Strongly Disagree" and "Strongly Agree" as the anchor points. The Cronbach's alphas reported in this section were calculated using the present dataset.

*Personal identity exploration.* We assessed present perfect (past) personal identity exploration (e.g., "I have considered adopting different kinds of religious beliefs") using the exploration subscale (12 items,  $\alpha = .71$ ) from the Ego Identity Process Questionnaire (EIPQ; Balistreri, Busch-Rossnagel, & Geisinger, 1995). We assessed present personal identity exploration (e.g., "I'm not sure what religion means to me; I'd like to make up my mind, but I'm not done looking yet") using the moratorium subscale (12 items,  $\alpha = .75$ ) from the Extended Objective Measure of Ego Identity Status II (EOM-EIS-II; Bennion & Adams, 1986). The EIPQ and EOM-EIS-II share 6 of their 8 content domains in common (politics, religion, occupation, friendships, dating, and gender roles). Only these 6 content domains (12 items for each measure) were used in the present analyses.

*Ethnic identity exploration.* We used the ethnic identity search subscale (5 items,  $\alpha = .75$ ) from the Multi-Group Ethnic Identity Measure (MEIM; Roberts et al., 1999) to assess ethnic identity exploration. This subscale assesses the extent to which one has thought and talked with others about one's ethnicity and its personal significance. Items are worded both in the present tense and in the present perfect tense. Sample items include "I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs"

and "I think a lot about how my life will be affected by my ethnic group membership."

*Identity confusion.* We used three measures to index identity confusion: the diffusion subscale from the EOM-EIS-II (16 items,  $\alpha = .72$ ); the identity confusion items from the identity subscale of the Erikson Psychosocial Stage Inventory (EPSI; Rosenthal, Gurney, & Moore, 1981;  $\alpha = .73$ ); and the Identity Confusion Inventory (8 items,  $\alpha = .73$ ; Côté, 1984). Although the EPSI identity scale was designed to yield a single score for identity, previous factor analyses of the 12 items (Schwartz, Pantin, Prado, Sullivan, & Szapocznik, 2005) suggest a two-factor solution, with the positively worded items belonging to an identity synthesis subscale and with the negatively worded items belonging to an identity confusion subscale. Sample items include "I've never really considered men's and women's roles in marriage – it just doesn't seem to concern me" (EOM-EIS-II diffusion), "I am not sure what I want to do as a lifetime occupation" (Identity Confusion Inventory), and "I feel mixed up" (EPSI). Consistent with Erikson (1950, 1968) and others (e.g., Bosma & Kunnen, 2001; Luyckx et al., 2006), the items from all three of these scales used to index identity confusion reflect a lack of commitment, a lack of self-knowledge, and a lack of concern with identity issues.

*Adaptive psychosocial functioning.* We measured adaptive psychosocial functioning in terms of self-esteem, purpose in life, internal locus of control, and ego strength (resilience). These indices reflect both subjective well-being (Sheldon et al., 2004) and self-determination and agency (Côté, 1997; Schwartz, Côté, & Arnett, 2005). Self-esteem was assessed using the Coopersmith Self-Esteem Scale (25 items,  $\alpha = .87$ ; Coopersmith, 1981), which assesses participants' overall self-worth. Sample items include "I'm a lot of fun to be with." Purpose in life was assessed using the Purpose in Life Scale (12 items,  $\alpha = .74$ ; Crumbaugh & Maholick, 1969), which assesses participants' sense of life purpose and direction. Sample items include "In life, I have very clear goals and aims for myself." Internal locus of control was measured using Côté's (1997) adaptation of Rotter's (1966) Locus of Control Scale, with a 5-point Likert scale used in place of the traditional ipsative format (5 items,  $\alpha = .61$ ). Sample items include "What happens to me is my own doing." Ego strength was measured using the Ego Strength Scale (26 items,  $\alpha = .81$ ; Epstein, 1983), which assesses the extent to which participants cope well, are resilient, and persevere in the face of adversity. Sample items include "I don't fall apart under stress as easily as most people do." These scales have been shown to function equivalently across ethnic groups (Schwartz, Côté, & Arnett, 2005), and the alpha coefficients obtained in the present sample are equivalent to those obtained in other studies (Côté, 1997; Schwartz, 2006).

*Maladaptive psychosocial functioning.* We utilized four scales to index maladaptive psychosocial functioning. Following Achenbach's (e.g., Achenbach, Dumenci, & Rescorla, 2002) partitioning of maladaptive behaviors into "internalizing" and "externalizing" symptoms, we used two scales to assess internalizing symptoms, and two scales to assess proclivity toward externalizing symptoms. In terms of internalizing symptoms, we assessed depression using the Center for Epidemiologic Studies Depression Scale (CES-D; 20 items,  $\alpha = .91$ ; Radloff, 1977), which was designed to assess depressive symptoms in

the general population. We assessed anxiety using the Beck Anxiety Inventory (18 items,  $\alpha = .92$ ; Beck, Epstein, Brown, & Steer, 1988). Both of these measures contain items referencing specific experiences during the week prior to assessment. Sample items include “I have felt down and unhappy this week” (CES-D) and “I have been worrying a lot this week” (Beck Anxiety Inventory).

We assessed proclivity toward externalizing problems in terms of impulsivity and tolerance for deviance. We measured impulsivity using eight items ( $\alpha = .83$ ) taken from Brook et al. (2005). Sample items include “I often say and do things without thinking.” We measured tolerance for deviance using seven items ( $\alpha = .82$ ) developed in line with Donovan, Jessor, and Costa (1999). These items were worded as “It is wrong to \_\_\_\_\_”, with a different negative behavior (e.g., smoke marijuana, drive while intoxicated, get into fist fights) listed for each item. Responses were reverse-scored so that higher scores indicated greater tolerance for deviance.

### Procedure

Students in introductory psychology, sociology, and human development courses were approached and invited to participate in the present study. All data collected at the University of Massachusetts-Amherst and at California State University-Monterey Bay, and the majority (73%) of data collected at Florida International University, were collected using an online data collection system. Data collected at the University of Miami and at the University of Nebraska were collected on hard copy because the Institutional Review Boards at these universities had approved only hardcopy data collection. Data at Florida International University were collected on hard copy during the fall of 2005 and online during the fall of 2006. Data at all other sites were collected in 2006. Given that the structure of identity and personality measures tends to be consistent across testing medium<sup>2</sup> (Chuah, Drasgow, & Roberts, 2006; Schwartz, Adamson, Ferrer-Wreder, Dillon, & Berman, 2006), we pooled data across testing medium.

## Results

### *Descriptive statistics and bivariate correlations*

Descriptive statistics for all study variables, by ethnicity, are displayed in Table 1. Mean differences by ethnicity were generally very small, with the exception of ethnic identity exploration (partial  $\eta^2 = .09$ ) and tolerance for deviance (partial  $\eta^2 = .06$ ), and the EPSI identity confusion subscale (partial  $\eta^2 = .04$ ). Black participants reported significantly more ethnic identity exploration than Hispanic participants, who in turn reported significantly more than White participants. On tolerance for deviance, Hispanics scored significantly lower than Whites or Blacks. On identity confusion, Whites scored significantly higher than Blacks or Hispanics.

We also reconducted these analyses with university as an additional independent variable. Four main effects of university emerged. This information is available from the first author on request.

Correlations between the identity and psychosocial func-

tioning indices are displayed in Table 2. It is noteworthy that ethnic identity exploration was not significantly related to any of the psychosocial functioning indices. The EOM-EIS-II moratorium scale, representing current personal identity exploration, was closely related to indices of identity confusion, moderately and negatively related to indicators of adaptive psychological functioning, and moderately and positively related to indicators of maladaptive psychosocial functioning. The EIPQ exploration scale, representing present perfect (past) personal identity exploration, was only weakly related to indicators of identity confusion and of adaptive and maladaptive psychological functioning. The identity confusion measures – particularly the Identity Confusion Inventory and the EPSI identity confusion scale – were negatively related to indicators of adaptive psychosocial functioning and positively related to indicators of maladaptive psychosocial functioning.

### *Relationships of personal and ethnic identity exploration to adaptive and maladaptive psychosocial functioning*

Structural equation models, estimated in Amos 7.0 (Arbuckle & Wothke, 2007), were used to examine the relationships of personal and ethnic identity exploration to adaptive and maladaptive psychosocial functioning. Adaptive psychosocial functioning was operationalized as a latent variable with self-esteem, purpose in life, internal locus of control, and ego strength as indicators (cf. Schwartz, Côté, & Arnett, 2005). In line with Achenbach et al. (2002), maladaptive psychosocial functioning was operationalized as two separate latent variables: internalizing symptoms (anxiety and depression) and proclivity toward externalizing symptoms (impulsivity and tolerance for deviance). Because the EIPQ exploration scale and the EOM-EIS-II moratorium scale represent present perfect (past) and current personal identity exploration, respectively, they were treated as separate variables and not combined into a single latent construct. The EIPQ exploration scale, the EOM-EIS-II moratorium scale, and the MEIM ethnic identity exploration scale were each entered into the models as single-indicator latent variables using a procedure outlined by Keith (2006). The path from the latent variable to the indicator is constrained to 1, and the variance of the error term attached to the indicator is constrained to the variance of the indicator multiplied by the proportion of unreliability in the indicator. Additionally, university was controlled by (a) creating dummy-coded variables for all data collection sites except Florida International University (which was used as the reference group because the majority of data were collected at that site); and (b) estimating paths from each of these dummy-coded variables to identity confusion and to each of the latent psychosocial functioning variables. Findings were nearly identical with and without controls for university.

Model fit was evaluated according to standard model fit criteria: the comparative fit index (CFI), which compares the fit of the specified model to a “null” model with no paths or latent variables; and the root mean square error of approximation (RMSEA), which specifies the degree to which the covariance structure implied by the model deviates from that observed in the data. In general, good fit is represented by CFI > .95 and RMSEA < .05, with .90 representing the lower bound for an acceptable CFI value and .08 representing the upper bound for an acceptable RMSEA value (Kline, 2006; Tomarken & Waller, 2003). The chi-square test, which tests the

<sup>2</sup> The models tested in the present study were also found to be invariant across testing medium.

**Table 1***Descriptive statistics for study variables*

Variable	White M (SD)	Black M (SD)	Hispanic M (SD)	F ratio (partial $\eta^2$ )
Personal identity exploration				
EIPQ exploration	39.91 (5.42)	39.13 (5.37)	40.21 (5.99)	2.09 (.00)
EOM-EIS-II moratorium	32.50 <sub>a</sub> (6.33)	31.39 <sub>ab</sub> (7.01)	31.02 <sub>b</sub> (6.51)	4.82** (.01)
Ethnic identity exploration				
Ethnic identity exploration	14.08 <sub>a</sub> (3.80)	17.52 <sub>b</sub> (3.69)	15.50 <sub>c</sub> (3.69)	26.93*** (.09)
Identity confusion				
EOM-EIS-II diffusion	41.14 (7.88)	40.30 (8.32)	40.59 (8.10)	0.37 (.00)
Identity confusion (EPSI)	14.84 <sub>a</sub> (4.15)	13.84 <sub>b</sub> (4.15)	13.46 <sub>b</sub> (3.93)	5.82** (.02)
Identity confusion inventory	19.67 <sub>a</sub> (5.33)	20.56 <sub>a</sub> (5.46)	18.23 <sub>b</sub> (4.54)	10.91*** (.04)
Adaptive psychosocial functioning				
Self-esteem	84.24 <sub>ab</sub> (14.66)	80.81 <sub>a</sub> (14.48)	85.83 <sub>b</sub> (14.29)	5.12** (.02)
Purpose in life	41.58 <sub>a</sub> (6.86)	41.59 <sub>a</sub> (6.60)	43.74 <sub>b</sub> (6.57)	7.57** (.03)
Internal locus of control	17.37 <sub>a</sub> (3.32)	17.47 <sub>a</sub> (3.11)	18.35 <sub>b</sub> (3.15)	6.17** (.02)
Ego strength	85.96 <sub>a</sub> (11.50)	85.57 <sub>a</sub> (12.65)	89.04 <sub>b</sub> (12.07)	5.27** (.02)
Maladaptive psychosocial functioning				
CES-D depression	49.74 (13.90)	49.42 (13.32)	49.37 (13.87)	0.04 (.00)
Beck anxiety	42.58 (14.39)	38.71 (13.28)	41.46 (13.46)	2.65 (.01)
Impulsivity	19.60 <sub>a</sub> (5.19)	18.83 <sub>b</sub> (6.03)	19.39 <sub>b</sub> (5.71)	0.62 (.01)
Tolerance for deviance	17.00 <sub>a</sub> (5.56)	16.24 <sub>a</sub> (6.47)	13.88 <sub>b</sub> (4.88)	19.90*** (.06)

Notes. Within each row, means with the same subscript are not significantly different from one another.

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

**Table 2***Correlations among indicators of identity processes and psychosocial functioning*

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14
Personal identity exploration													
1. Present perfect (past) exploration	.18***	.16***	-.14***	.07*	-.15***	.04	.10*	.14***	.12**	.09*	.07*	.01	-.15***
2. Current exploration	—	.07*	.58***	.51***	.31***	-.28***	-.28***	-.10**	-.22***	.26***	.27***	.25***	.13**
Ethnic identity exploration													
3. Ethnic identity exploration		—	-.11**	-.05	-.06	.05	.12**	.04	.01	.04	.04	.03	-.07
Identity confusion													
4. EOM-EIS-II diffusion			—	.34***	.29***	-.23***	-.26***	-.14***	-.16***	.18***	.21***	.20***	.17***
5. Identity confusion (EPSI)				—	.43***	-.47***	-.51***	-.26***	-.38***	.38***	.39***	.28***	.20***
6. Identity confusion inventory					—	.57***	-.62***	-.40***	-.49***	.39***	.33***	.22***	.42***
Adaptive psychosocial functioning													
7. Self-esteem						—	.66***	.26***	.61***	-.48***	-.37***	-.26***	-.37***
8. Purpose in life							—	.48***	.58***	-.45***	-.33***	-.20***	-.42***
9. Internal locus of control								—	.35***	-.20***	-.18***	-.13**	-.29***
10. Ego strength									—	-.41***	-.33***	-.42***	-.34***
Maladaptive psychosocial functioning													
11. CES-D depression										—	.82***	.27***	.15***
12. Beck anxiety											—	.28***	.10**
13. Impulsivity												—	.24***
14. Tolerance for deviance													—

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

**Table 3**  
*Correlations among latent constructs*

Construct	2	3	4	5	6	7
1. Current personal identity exploration	.32***	.13***	.57***	-.41***	.34***	.37***
2. Past personal identity exploration	—	.19***	-.06	.10*	.10*	-.18**
3. Ethnic identity exploration		—	-.07	.09*	.05	-.05
4. Identity confusion			—	-.80***	.52***	.71***
5. Adaptive psychosocial functioning				—	-.55***	-.77***
6. Internalizing symptoms					—	.42***
7. Proclivity toward externalizing symptoms						—

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

null hypothesis of perfect fit to the data, is reported but is not used in interpretation because it tends to be overpowered in large samples and in complex models (Kline, 2006).

*Measurement model.* First, to make sure that each latent variable was well defined by its indicators and to ensure discriminant validity among the constructs under study, a measurement model was estimated. In this measurement model, all latent constructs were allowed to correlate with one another, but no directional paths were estimated. This model fit the data adequately,  $\chi^2(56) = 299.50$ ,  $p < .001$ ; CFI = .94; RMSEA = .067 (90% CI = .057 to .074). With two exceptions (diffusion on identity confusion,  $\lambda = .39$ ; and tolerance for deviance on proclivity toward externalizing symptoms,  $\lambda = .42$ ), all factor pattern coefficients were above .50. As a result, we concluded that the measurement model provided an acceptable representation of the data. Correlations among latent constructs are shown in Table 3.

*Direct-effects model.* In the first model, direct paths were estimated from the exploration variables to the psychosocial functioning indices. For theoretical reasons (e.g., Brendgen, Vitaro, & Bukowski, 2000; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Harter, 1999), the error terms for adaptive psychological functioning, internalizing symptoms, and proclivity toward externalizing symptoms were allowed to intercorrelate. Error terms for ego strength and impulsivity, which are conceptual opposites (Côté, 1997; Schwartz, 2007), were also allowed to correlate. The resulting model fit the data well,  $\chi^2(31) = 147.89$ ,  $p < .001$ ; CFI = .96; RMSEA = .062 (95% CI = .052 to .072) (Figure 1). Present personal identity exploration was negatively associated with adaptive psychosocial functioning and positively associated with internalizing symptoms and with proclivity toward externalizing symptoms. In contrast, past personal identity exploration was positively associated with adaptive psychosocial functioning and negatively related to proclivity toward externalizing symptoms. Ethnic identity exploration was not significantly related to any of the psychosocial functioning indices.<sup>3</sup>

The next step of analysis was to examine the extent to which this model fit consistently across gender and across the three ethnic groups under study. As recommended by Byrne (2001),

the sample was split by gender or ethnicity, and two models were estimated: (a) a model in which all factor pattern coefficients and structural paths were allowed to vary freely across gender or ethnic groups; and (b) a model in which all factor pattern coefficients and structural paths were constrained equally across groups. If these two models fit the data equivalently, the model would be said to be invariant across genders or ethnic groups (see Cheung & Rensvold, 2002; Vandenberg & Lance, 2000, for reviews of the measurement invariance literature).

Invariance was tested by comparing the unconstrained and constrained models using two fit statistics: the difference in CFI values and the difference in non-normed fit index (NNFI) values. The null hypothesis of equivalent fit would be retained provided that  $\Delta\text{CFI} < .01$  (Cheung & Rensvold, 2002) and  $\Delta\text{NNFI} < .02$  (Vandenberg & Lance, 2000). The chi-square difference ( $\Delta\chi^2$ ) is reported but is not used in interpretation because it tests the null hypothesis of identical fit between models, and it often indicates significant differences in model fit when differences in the fit indices themselves are trivial (Little, 1997). Invariance analyses indicated that the direct-effects model fit equivalently across ethnic groups,  $\Delta\chi^2(28) = 52.50$ ,  $p < .001$ ;  $\Delta\text{CFI} = .005$ ;  $\Delta\text{NNFI} < .001$ , and across gender,  $\Delta\chi^2(14) = 11.31$ ,  $p = .66$ ;  $\Delta\text{CFI} < .001$ ;  $\Delta\text{NNFI} < .001$ .

*Mediational model.* The next step of analysis was to evaluate the extent to which identity confusion would mediate the relationships of identity exploration to adaptive and maladaptive psychosocial functioning (see Figure 2). A latent variable for identity confusion was defined using the EOM-EIS-II diffusion scale, the Identity Confusion Inventory, and the EPSI identity confusion subscale. Paths were estimated from the identity exploration variables to identity confusion, and from identity confusion to the psychosocial functioning variables. Direct paths from past personal identity exploration and from ethnic identity exploration to psychosocial functioning were also estimated. Paths were not estimated from present identity exploration to the psychosocial functioning variables because of multicollinearity concerns: the semipartial correlation between current personal identity exploration and identity confusion, controlling for past personal identity exploration and for ethnic identity exploration, was  $r = .74$ . Estimating paths from both present personal identity exploration and identity confusion to psychosocial functioning would likely result in unstable or inaccurate parameter estimates (Kline, 2006).

The mediational model fit the data adequately,  $\chi^2(59) =$

<sup>3</sup> To ensure that this finding was not an artifact of using two personal identity exploration measures and only one ethnic identity exploration measure, we estimated both the direct-effects and mediated models without the personal identity exploration variables. Findings for ethnic identity exploration were virtually identical to those reported here.

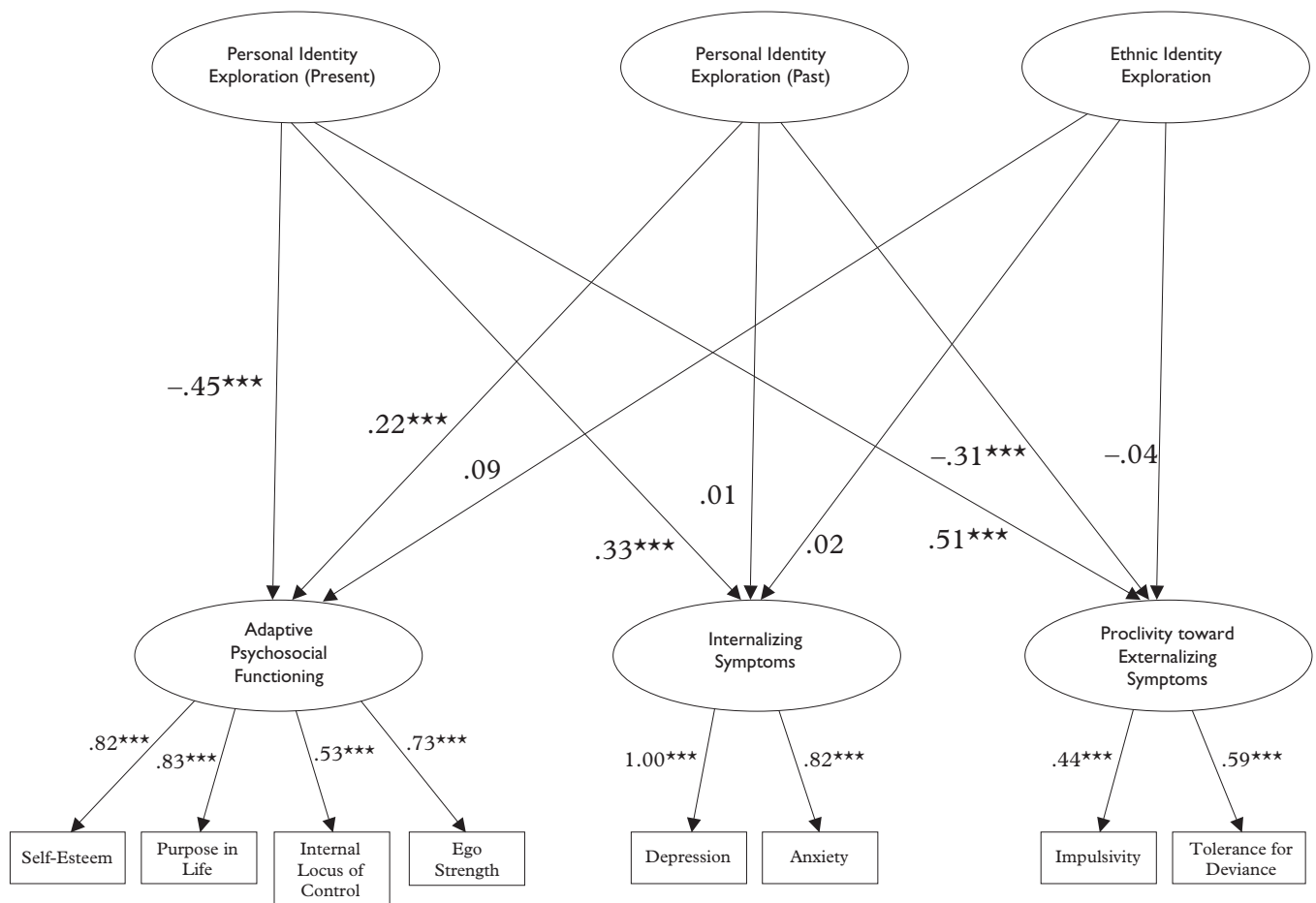


Figure 1. Direct-effects model.

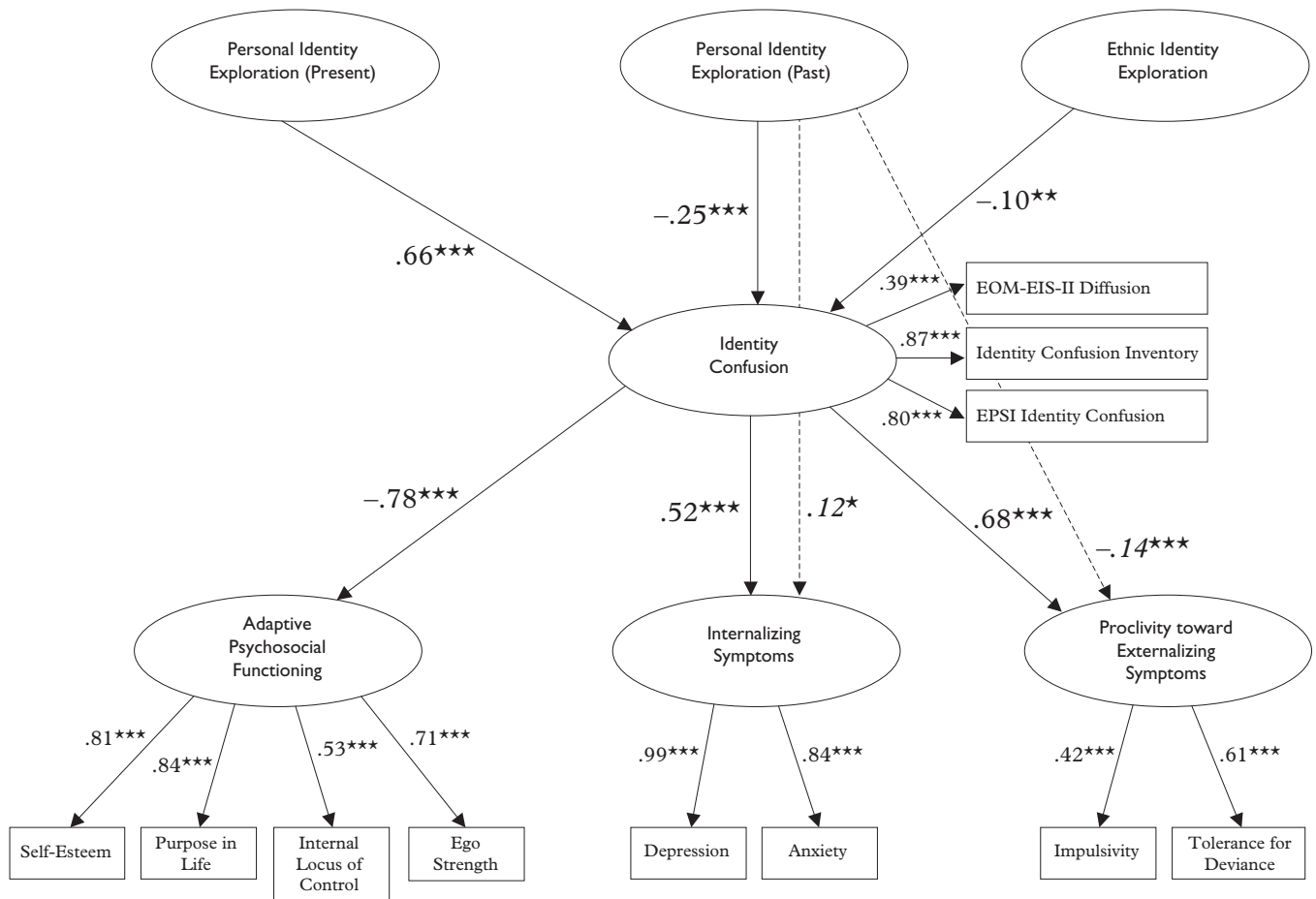
301.28,  $p < .001$ ; CFI = .94; RMSEA = .065 (95% CI = .058 to .072) (see Figure 2). The paths from current and past personal identity exploration to identity confusion, and from identity confusion to the psychosocial functioning variables, were all significant at  $p < .001$ . To test for mediation, we used the asymmetric distribution of products test (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). As part of this test, a 95% confidence interval is constructed around the product of the two unstandardized paths that determine the mediating pathway. If this confidence interval does not include zero, partial mediation is assumed. The product of the two standardized paths can then be used to estimate the magnitude of the indirect effect through identity confusion.

Identity confusion was found to mediate the relationships from all of the ethnic identity exploration variables to all of the psychosocial functioning variables (see Table 4). Unlike the traditional Baron and Kenny (1986) approach, the asymmetric distribution of products test for mediation does not require a direct effect of the independent variable on the dependent variable (MacKinnon, Krull, & Lockwood, 2000). As a result, some of the mediated relationships obtained – particularly those for ethnic identity exploration – are suggestive of indirect effects that operate only through identity confusion. Without this mediator in the model, there appeared to be no relationships at all between ethnic identity exploration and psychosocial functioning. With that said, however, the mediated relationships of ethnic identity exploration to psychosocial functioning were considerably smaller than were the corre-

sponding mediated relationships involving personal identity exploration (both present and past).

In the mediational model, the only significant direct path was between past personal identity exploration and internalizing symptoms,  $\beta = -.14$ ,  $p < .001$ . As noted above, direct paths from current personal identity exploration to psychosocial functioning could not be estimated because of multicollinearity concerns resulting from the extremely strong semi-partial correlation between current personal identity exploration and identity confusion (cf. Marsh, Dowson, Pietsch, & Walker, 2004). However, it is worth noting that modification indices for adding paths from current personal identity exploration to the psychosocial functioning variables were all less than 14. Modification indices reflect the expected decrease in the  $\chi^2$  value that would accompany adding the specified path (Kaplan, 1990). With a model  $\chi^2$  of 236.03, a chi-square decrease of 14 points would be unlikely to produce meaningful changes in the CFI or RMSEA indices. As a result, it can be concluded that the relationships of personal and ethnic identity exploration to psychosocial functioning operate largely through identity confusion.

As was done with the direct-effects model, we conducted invariance tests on the mediational model across ethnicity. Results indicated that the model fit equivalently across the three ethnic groups,  $\Delta\chi^2(26) = 58.33$ ,  $p < .001$ ;  $\Delta\text{CFI} = .008$ ;  $\Delta\text{NNFI} < .001$ , and across gender,  $\Delta\chi^2(27) = 23.77$ ,  $p = .64$ ;  $\Delta\text{CFI} < .001$ ;  $\Delta\text{NNFI} < .001$ . As a result, we concluded that



**Figure 2.** Identity confusion mediational model.

Notes. <sup>a</sup> Significant direct paths are displayed using dashed lines. Nonsignificant direct paths are not displayed. <sup>b</sup> The semi-partial correlation between current identity exploration and the latent identity confusion variable was  $r = .74$ . As a result, paths from current identity exploration to the psychosocial functioning variables were not estimated because of multicollinearity issues.

**Table 4**  
Summary of mediational effects

Independent variable	Dependent variable	Unstandardized coefficients		Standardized coefficients		
		Point estimate	95% CI	Indirect	Original direct <sup>a</sup>	Mediated direct <sup>b</sup>
Current personal identity exploration	Adaptive psychosocial functioning	-1.027	-1.206 to -0.849	-.51 <sup>***</sup>	-.45 <sup>***</sup>	N/A <sup>c</sup>
Current personal identity exploration	Internalizing symptoms	0.798	0.648 to 0.947	.34 <sup>***</sup>	.33 <sup>***</sup>	N/A
Current personal identity exploration	Proclivity toward externalizing symptoms	0.185	0.132 to 0.238	.45 <sup>***</sup>	.51 <sup>***</sup>	N/A
Past personal identity exploration	Adaptive psychosocial functioning	0.476	0.321 to 0.631	.20 <sup>***</sup>	.22 <sup>***</sup>	.06
Past personal identity exploration	Internalizing symptoms	-0.370	-0.494 to -0.245	-.13 <sup>***</sup>	.01	.12 <sup>**</sup>
Past personal identity exploration	Proclivity toward externalizing symptoms	-0.086	-0.120 to -0.052	-.17 <sup>***</sup>	-.31 <sup>***</sup>	-.14 <sup>*</sup>
Ethnic identity exploration	Adaptive psychosocial functioning	0.270	0.094 to 0.446	.08 <sup>**</sup>	.09	.03
Ethnic identity exploration	Internalizing symptoms	-0.210	-0.348 to -0.072	-.05 <sup>**</sup>	.01	.06
Ethnic identity exploration	Proclivity toward externalizing symptoms	-0.049	-0.082 to -0.015	-.07 <sup>**</sup>	-.04	.02

Notes. <sup>\*</sup> $p < .05$ ; <sup>\*\*</sup> $p < .01$ ; <sup>\*\*\*</sup> $p < .001$ .

<sup>a</sup> Direct path when the mediator was not included in the model. <sup>b</sup> Direct path when the mediator was included in the model. <sup>c</sup> Direct path was not estimated due to multicollinearity concerns.

the mediational findings generalized to men and women within the White, Black, and Hispanic ethnic groups.

### *Estimation of an opposite-direction model*

Because structural equation modeling is a confirmatory technique, it is designed only to ascertain the fit of a specified model to the data, not to identify the model that provides the best fit. As a result, it is necessary to specify and evaluate theoretically plausible alternative models that may fit the data as well as – or better than – the model that the authors wish to retain (Tomarken & Waller, 2003). This is especially true in cross-sectional research, where causality, sequentiality, and directionality cannot be empirically tested (Kraemer, Yesavage, Taylor, & Kupfer, 2000). Therefore, a model was specified in which identity confusion served as the independent variable and where the three identity exploration constructs served as mediators. In this alternative model, paths were not estimated from identity confusion to the psychosocial functioning variables because of multicollinearity concerns with current personal identity exploration. The same correlated error terms from the hypothesized mediational model were retained in the alternative model. The alternative model provided a relatively poor fit to the data,  $\chi^2(61) = 593.09$ ,  $p < .001$ ; CFI = .87; RMSEA = .097. Modification indices indicated that adding paths from identity confusion to psychosocial functioning would have resulted in implausible values (i.e., standardized path coefficients greater than 1, and in some cases greater than 10).

Because the hypothesized and alternative models are not nested, they were compared using the Bayesian Information Criterion (BIC; Schwartz, 1978), where lower values indicate a better fitting model. This comparison indicated that the hypothesized mediational model provided a better fit to the data than the alternative model,  $\Delta\text{BIC} = 293.81$ . As a result, the model positing an alternative direction of effects was rejected, and the hypothesized model was retained.

## Discussion

The purpose of the present study was to examine the relationships of personal and ethnic identity exploration to adaptive and maladaptive aspects of psychosocial functioning in emerging adults and to examine the mediating role of identity confusion in these relationships. Identity is one of the key developmental tasks of the transition to adulthood, and exploration is the “vehicle” through which identity is most often formed in Western cultural contexts (Adams & Marshall, 1996; Bosma & Kunnen, 2001). Moreover, given the increasingly diverse and multicultural nature of many Western countries, identity exploration may be an important undertaking in the area of ethnicity and culture as well as in traditional identity domains such as career choice, religious beliefs, and relationship preferences. Following recent recommendations for identity research (Schwartz, 2005; Sneed et al., 2006), in the present study we used a multi-ethnic sample and examined both personal and ethnic identity exploration as direct and indirect correlates of adaptive and maladaptive psychosocial functioning. Also consistent with recent identity research (Schwartz, Adamson, et al., 2006; Schwartz, Côté, & Arnett, 2005), we conducted analyses to evaluate the relationships of personal and ethnic identity exploration to indices of

adaptive and maladaptive psychosocial functioning, both directly and through identity confusion, across three prominent U.S. ethnic groups. Allowing individuals to self-identify into ethnic groups permits us to tap into ethnicity (which is ascribed from within) rather than race (which is ascribed from without; Phinney, 1996; Hirschman, 2004).

In general, three primary findings emerged from the present study. First, present personal identity exploration was strongly associated with both adaptive and maladaptive psychosocial functioning, whereas ethnic identity exploration was not.<sup>4</sup> Second, current personal identity exploration was associated with lowered psychological well-being and with anxiety, depression, impulsivity, and tolerance for deviance. Present perfect (past) personal identity exploration showed a largely opposite pattern of relationships to psychosocial functioning. Third, virtually all of the relationships between identity exploration and psychosocial functioning were mediated by identity confusion – which appears synonymous with a lack of commitment. As a result, the disequilibrating effects of personal identity exploration occur, at least in part, through the loosening or discarding of commitments.

Regarding the first primary finding, the differential patterns of results for personal versus ethnic identity suggest that these two forms of identity may be developed in different ways and may serve different functions in emerging adulthood. For example, although personal identity exploration may be disequilibrating, ethnic identity exploration may be less so. One possible explanation may be that developing a sense of personal identity is essential for making one’s way in the world and that lacking a coherent sense of personal identity – as may happen during the exploration process – may create a sense of aimlessness and anomie (Côté & Levine, 2002; Schwartz, Côté, & Arnett, 2005). On the other hand, although lack of a coherent sense of ethnic and cultural identity can be distressing (Schwartz et al., 2006), it does not necessarily create a sense of despair or lack of purpose. In other words, exploring the meaning of one’s ethnicity may be more “optional” than exploring domains such as career choice, personal values, and relationship preferences. This pattern appeared to generalize across ethnic groups, supporting prior findings that, although White Americans tend to be less concerned with ethnic identity than are members of other racial groups, the functions of ethnic identity vis-à-vis other domains of functioning are equivalent across ethnicity (e.g., Roberts et al., 1999). In addition, the university context may promote exploration of personal identity issues through exposure to new ideas and concepts and the need to make important self-defining decisions (e.g., selecting a major to prepare for a career, whether to use drugs and alcohol).

Alternatively, it is possible that the context in which the research was conducted may have affected the results. Miami, in which most of the present data were collected, has been a Hispanic enclave for two generations (Stepick & Stepick, 2002), and nearly 80% of the population is nonwhite. The functions of ethnic identity in such a context may be different than in a context dominated by White American culture (cf.

<sup>4</sup> As an exploratory analysis, we examined correlations of present-tense and present-perfect tense ethnic identity exploration items to indices of identity confusion and psychosocial functioning. Although the overall trend appeared to follow the same directionality as our results for personal identity, most of the correlations for ethnic identity were small and/or nonsignificant. None exceed an absolute value of .17.

Umaña-Taylor & Shin, 2007). The complexity of ethnic identity (e.g., the meaning of ethnicity may vary substantially across individuals, even within a single ethnic group) may also have increased the difficulty of finding relationships with ethnic identity (cf. Hirschman, 2004). Nonetheless, many studies using the MEIM with specifically defined ethnic groups have found significant and theoretically consistent results (e.g., Fuligni, Witkow, & Garcia, 2005; Schwartz, Zamboanga, & Jarvis, 2007).

The second primary finding, that current and past identity exploration showed largely opposing relationships to adaptive and maladaptive psychosocial functioning, may be most interpretable in terms of the contrasts between the moratorium and achieved statuses in Marcia's (1966) identity status model. The moratorium status represents active exploration without commitment, whereas the achieved status represents a commitment enacted following a period of exploration. Individuals in both moratorium and achievement, then, should score high on past (present perfect) exploration. That is, they should be likely to respond affirmatively to items such as "I have considered different religious beliefs thoughtfully." However, individuals in moratorium, but not in achievement, should score high on present exploration – that is, they are *currently* sorting through various identity alternatives.

The association of present perfect (past) exploration with a given outcome, controlling for current exploration, refers to the effect of a period of exploration that is no longer occurring. Although this could conceivably refer to a premature cessation of the exploration process – likely resulting in a return to a diffused or foreclosed state (Côté & Levine, 2002) – prior research has found both diffusion and foreclosure to be associated with less favorable psychosocial functioning than achievement (Schwartz, Côté, & Arnett, 2005). It is therefore most plausible that the effects of past personal identity exploration reflect a transition from moratorium to achievement. Enacting commitments may help to counteract the confusion and anomie that accompanies active identity exploration. However, it should be noted that longitudinal research is needed to accurately map the transition into and out of moratorium, including whether the exploration leads to commitments that characterize the achieved status – or whether the exploration is aborted (cf. Luyckx et al., 2006).

Moratorium and achievement, although both characterized by exploration, map quite differently onto psychosocial functioning. Moratorium is associated with anxiety, depression, and other forms of psychopathology (Kidwell et al., 1995; Luyckx et al., 2008). The achieved status is associated with balanced thinking, mature interpersonal relationships, and relative emotional stability (see Waterman, 1999, for a review). These two statuses appear so opposing that Côté and Schwartz (2002, p. 582) noted that "the transition from moratorium to achievement may require a massive personality reconfiguration that may or may not be successfully negotiated." The primary demarcation between moratorium and achievement is the establishment of commitments that ground the person and guide her or his future choices. Indeed, Schwartz, Côté, and Arnett (2005) found that commitments – particularly those enacted following a period of exploration – differentiated more from less successful identity development.

However, although the present results are suggestive of the conclusion that establishing commitments represents the demarcation between past and ongoing exploration, there may be important differences between prior exploration leading to

commitments and prior exploration that was prematurely aborted or stopped (see Waterman, 1982, 1999, for an extended discussion of this issue). Like other studies examining identity exploration (Kidwell et al., 1995; Luyckx et al., 2008), the present study was cross-sectional and did not examine the antecedents or results of the exploration process. It is important for future research to do so.

It should be noted that, in most cases, active personal identity exploration (moratorium) is a temporary state. Most adolescents and emerging adults eventually exit the exploration process and commit to a set of goals, values, and beliefs (Bosma & Kunnen, 2001). As a result, at least some of the maladaptive symptomatology associated with personal identity exploration is likely to be transitory. Given that the majority of personal identity exploration now occurs during emerging adulthood, engagement in exploratory activities – and the increases in impulsivity and tolerance for deviance that may accompany these activities – may explain some of the reckless behavior (e.g., drug use, sexual risk taking, impaired driving) that is more prevalent in emerging adulthood than in other developmental periods (Arnett, 1994, 2007).

The third primary finding, that identity confusion appeared to serve as the mechanism through which identity exploration is associated with adaptive and maladaptive psychosocial functioning, further supports the argument that the presence versus absence of commitments may differentiate past versus current personal identity exploration. The absence of commitments inherent in ongoing identity exploration is strongly related to identity confusion, which in turn is related to poor psychosocial functioning. On the other hand, making commitments and ending a period of active exploration may provide relief from the identity confusion associated with ongoing exploration.

### *Limitations and future directions*

The present results should be interpreted in light of several important limitations. First, the cross-sectional design used in the present study permitted exploration of the relationships of personal and ethnic identity exploration to adaptive and maladaptive aspects of psychosocial functioning, and a model positing an alternative direction of effects was dismissed in favor of the hypothesized model. Nonetheless, it was not possible to empirically examine directionality in the relationships between identity and psychosocial functioning. It is therefore necessary to replicate the present findings longitudinally to determine the direction of effects, which can then be used to design interventions that capitalize on the directional sequence that emerges (Schwartz, 2005). In addition, longitudinal research would help to ascertain the extent to which movement into and out of active identity exploration is associated with increases or decreases in well-being, internalizing symptoms, and proclivity toward externalizing symptoms.

Second, the use of a university student sample may somewhat inhibit generalizability of the findings. Although the majority of identity research on emerging adults is conducted with college students (Schwartz, 2005), it is not known how the identity development process may differ between college and non-college emerging adults (Schwartz, Côté, & Arnett, 2005). Given arguments that the university atmosphere is especially conducive to personal identity development (e.g., prolonged moratorium) through providing a wide array of choices and ideas (e.g., Montgomery & Côté, 2003), it is especially important to understand how identity develops in

individuals who do not attend college. Replication of the present results with a non-college sample would provide an opportunity to address this research need.

Third, the use of impulsivity and tolerance for deviance as indices of proclivity toward externalizing symptoms warrants attention. These variables may serve as markers for more severe externalizing problems without creating social desirability and honesty issues. The relationships of current personal identity exploration and of identity confusion to impulsivity and tolerance for deviance support the argument that these variables serve as aspects of psychosocial functioning as well as personality characteristics. The relationship of personal identity exploration to impulsivity and tolerance for deviance suggests that at least some of the variability in these indicators may be associated with exploring one's personal identity and with being uncommitted to a particular set of goals, values, and beliefs. Nonetheless, it may be useful in future studies to gather data on drug use and other forms of externalizing behavior in addition to variables such as impulsivity and tolerance for deviance.

Fourth, the instruments used to assess personal and ethnic identity exploration were not parallel to one another. Although the MEIM is the most commonly used measure of ethnic identity (Phinney & Ong, 2007), it does not allow for differentiation of past and present ethnic identity exploration. As a result, it is not known whether the weak and largely nonsignificant findings for ethnic identity exploration are due to the mixing of present and past tense items. It is important for future studies to utilize measures that are consistent across personal and ethnic identity, so that the effects of these dimensions can be more directly compared.

Despite these limitations, the present study has generated potentially important knowledge regarding the relationships of personal and ethnic identity exploration to adaptive and maladaptive aspects of psychosocial functioning. If replicated longitudinally, the present findings may have important implications for the design and implementation of interventions to promote personal and ethnic identity development, to facilitate subjective well-being and agency, and to reduce psychological distress and proclivity toward problematic behaviors in young people.

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