

The Path From Identity Commitments to Adjustment: Motivational Underpinnings and Mediating Mechanisms

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The present study focused on motivational underpinnings of identity commitments and mediating mechanisms underlying their effects on well-being and distress in a sample of college freshmen ($N = 399$). Using a path model in a structural equation modeling approach, the authors found that causality orientations appeared to serve as motivational antecedents of identity commitments. Identity integration mediated the pathway from identity commitments to adjustment (i.e., well-being and absence of distress). Suggestions for future research and implications for counseling are provided.

Erikson (1968) highlighted the central role of identity formation in contributing to well-being in late adolescence. In light of social-structural changes in contemporary Western societies, the task of identity formation has been extended into emerging adulthood, that is, the late teens and the 20s (Arnett, 2004). Moreover, many young people make the transition to adulthood through higher education, thereby further prolonging the process of identity formation. Partially because of the transitional stressors and instability of the emerging adult years, however, emerging adulthood is also a period of substantive stress and risk for increased distress and decreased well-being (Côté & Levine, 2002).

According to Erikson (1968), a synthesized sense of identity has beneficial effects on individuals' adjustment. A well-developed and integrated identity provides a subjective sense of inner unity and continuity over time, providing adolescents and emerging adults with a sense of well-being and self-esteem. Many studies (see Bosma & Kunnen, 2001) have indeed found evidence for a positive association between identity commitments and psychological well-being. On the basis of these premises, identity development is generally viewed as a core therapeutic issue in counseling late adolescents and emerging adults (Schultheiss & Blustein, 1994). Few empirical studies have addressed the motivational processes that contribute to establishing identity commitments and the mediating mechanisms through which commitments exert beneficial outcomes. The present study attempts to capture some of these antecedent mechanisms (i.e., causality orientations; Deci & Ryan, 1985a) and mediating processes (i.e., identity integration; O'Brien & Epstein, 1988) of the identity commitment–adjustment pathway.

Identity Formation in Emerging Adulthood

For nearly 40 years, individual differences in identity formation have been conceptualized along two fundamental dimensions—exploration and commitment (Marcia, 1966). *Exploration* refers to the active questioning and consideration of various identity alternatives. *Commitment* refers to choosing from among the alternatives one has explored.

Marcia's (1966) model of identity development treats commitment as a singular process—that is, the act of making commitments and adhering to them. However, Luyckx, Goossens, Soenens, and Beyers (2006) have shown that commitment can be separated into two distinct dimensions—commitment making and identification with commitment. Commitment making represents Marcia's original conception of commitment, whereas identification with commitment represents the comfort and certainty one feels about the commitments that one has made. Conceptualizing commitment as two distinct but interrelated dimensions lends a dynamic nature to commitment and reformulates it as a process rather than as an outcome (Luyckx, Goossens, & Soenens, 2006). Both commitment making and identification with commitment influence adjustment and well-being in emerging adults (Luyckx, Goossens, Soenens, et al., 2006), which suggests that these dimensions may represent an important angle of approach for counselors working with emerging adults who struggle with their self-definition or self-concept (Archer, 1994). To help counselors most effectively intervene with identity-confused or distressed emerging adults, we need to identify the underlying processes through which commitments exert positive effects on adjustment outcomes.

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An Identity Mediation Model: The Role of Identity Integration

Identity integration represents the efficiency of one's self-concept in integrating new information and in organizing and directing life experience (O'Brien & Epstein, 1988). Identity integration overlaps substantially with similar constructs, such as self-concept clarity (Campbell, Assanand, & Di Paula, 2003) and temporal-spatial continuity (Dunkel, 2005). People scoring high on identity integration know what they want out of life; have well-defined, long-term goals; and possess an inner coherence across the different aspects of their self-concept. Conversely, people scoring low on identity integration experience much inner conflict regarding the different aspects of their self-concept.

Forming and adhering to stable identity commitments are assumed to nurture this feeling of having an integrated sense of self (cf. Côté & Levine, 2002). O'Brien and Epstein (1988) reported substantial negative correlations of identity integration to neuroticism and depressive symptoms and a substantial positive correlation of identity integration to self-esteem (see also Campbell et al., 2003). In sum, it seems plausible to expect that the coherence of different elements within one's self-concept, along with its consistency across time and space, would act as a mediating mechanism between commitment and adjustment.

Motivational Underpinnings of Identity Formation: The Role of Causality Orientations

We also examined the extent to which causality orientation, as an index of how individuals in general regulate their behavior and actions, contributes to the identity commitment–adjustment pathway. According to self-determination theory (SDT; Deci & Ryan, 1985b), people differ in terms of how they regulate their behavior. These differences are characterized in three general causality or motivational orientations (Deci & Ryan, 1985a), that is, autonomous orientation, controlled orientation, and impersonal orientation. Causality orientations capture the degree to which individuals engage in self-determined behavior and, hence, may have the potential to increase the counseling profession's understanding of identity formation (Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2005). At a broad level, SDT and theories of identity development converge in their assumptions about the development of self-regulation and self-definition; both are described in terms of increasing personal integration and obtaining greater autonomy and relatedness (Bosma & Kunnen, 2001; Ryan & Deci, 2007).

The autonomous orientation is characteristic of individuals whose actions are based on a sense of volition. They perceive their behavior as self-initiated and self-regulated, and they ac-

tively seek out opportunities that correspond to their personal values and interests. This orientation has been shown to be related to self-esteem, self-awareness, personality integration, goal attainment, and an information-oriented identity style. The controlled orientation is characteristic of individuals who perceive their behavior as being initiated by external or partially internalized forces and imperatives. They tend to comply with threats, deadlines, and expectations about how they should act. The controlled orientation has been associated with concern about external agents of control, negative affect, public self-consciousness, and a normative identity style.

Finally, the impersonal orientation is characteristic of individuals who perceive their actions as being influenced by factors over which they have limited intentional control. They believe that they lack the ability or resources to personally regulate their actions in a way that will enable them to effectively obtain the outcomes they desire. Consequently, they develop a pervasive sense of incompetence that leaves them vulnerable to failure experiences, depressive symptoms, social anxiety, low self-esteem, hostility, and a procrastinatory approach to decision making (Deci & Ryan, 1985a; Soenens et al., 2005).

Purpose of the Present Study

The present study was guided by two primary aims. First, we attempted to ascertain the mediating role of identity integration in the relationships between identity commitments and adjustment (Erikson, 1968). Depressive symptoms and self-esteem were considered as adjustment indices. Second, we were interested in the role of causality orientation in initiating this process. Consequently, we examined the extent to which individuals' causality orientations contribute to making and feeling certain about identity commitments (Deci & Ryan, 1985a).

Hypothesis 1: The commitment dimensions would be positively related to identity integration. Identity integration, in turn, would relate to adjustment.

Hypothesis 2: The paths from both commitment dimensions to adjustment would be mediated by identity integration. As such, forming determined and stable identity commitments would nurture an integrated self-concept, which would account for the beneficial influence of forming and adhering to identity commitments (cf. Côté & Levine, 2002).

Hypothesis 3a: The autonomous orientation would be positively related to the commitment dimensions. The autonomous orientation is the embodiment of self-determination in personality and is most likely to facilitate identity development (Deci & Ryan, 1985a).

Hypothesis 3b: The controlled orientation would be unrelated to the commitment dimensions. Because identity formation is largely guided by external evaluations and forces for individuals scoring high on this orientation, the controlled orientation may be either

positively or negatively correlated with making steady commitments and feeling certain about them, depending on the person and situation (Deci & Ryan, 1985b; Schwartz, Côté, & Arnett, 2005).

Hypothesis 3c: The impersonal orientation would be negatively related to the commitment dimensions because this orientation represents regarding oneself as inadequate.

Method

Participants

The present sample consisted of 399 freshmen (78.9% women and 21.1% men) from the Faculty of Psychology and Educational Sciences from a large university in Belgium. This university mainly attracts Caucasian students from middle-class backgrounds. Mean age was 18 years, 8 months ($SD = 7.5$ months), with a range from 17 years, 2 months to 22 years, 1 month.

Measures

Cronbach's alpha coefficients are reported on the diagonal in Table 1 (ranging from .71 to .89). Participants responded to each item using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), unless indicated otherwise.

Motivational orientations. Causality orientations were assessed using the General Causality Orientations Scale (Deci & Ryan, 1985a), which consists of 12 vignettes that briefly describe specific situations (e.g., what questions one might ask oneself after being offered a new position in a company). Each vignette is accompanied by three responses, each of which reflects one of the three orientations: autonomous (e.g., How interesting will the work be?), controlled (e.g., How much money will I make?), and impersonal (e.g., What if I do poorly?). Participants were asked to indicate the extent to which each of the three responses reflected how well they act, feel, or think in this situation. Internal consistency estimates obtained with the Dutch translation (e.g., Soenens et al., 2005) have been similar to those reported by Deci and Ryan (1985a).

Commitment and identity integration. Commitment making was assessed with a 15-item subscale of the Dutch version

(Luyckx, Goossens, Beyers, & Soenens, 2006) of the Ego Identity Process Questionnaire (EIPQ; Balistreri, Busch-Rossnagel, & Geisinger, 1995). The EIPQ assesses commitment making in four ideological and four interpersonal content domains. As recommended by Balistreri et al., we summed across content domains to create a single score for commitment making. A sample item is "I have definitely decided on the occupation I want to pursue." Both the original English version and the translated Dutch version have shown adequate convergent validity with other identity measures (Luyckx, Goossens, Beyers, et al., 2006).

Identification with commitment. Identification with commitment was assessed using the Utrecht–Groningen Identity Development Scale (U-GIDS; Meeus & Deković, 1995), a questionnaire originally developed for use with Dutch-speaking adolescents. The U-GIDS contains 16 items assessing identification with commitment in the domains of friendship and educational major. As with the EIPQ, we summed across content domains. A sample item is "My education gives me certainty in life." Meeus and Deković have provided evidence for the factorial structure of the U-GIDS across various samples. Meeus, Oosterwegel, and Vollebergh (2002) provided an overview of the instrument's concurrent and construct validity.

Identity integration. Identity integration was assessed using the 10-item Identity Integration subscale of the Multidimensional Self-Esteem Inventory (MSEI; O'Brien & Epstein, 1988). The measure was translated into Dutch using the guidelines of the International Test Commission (Hambleton, 1994). The factor structure and internal consistency of the Dutch translation was in line with that of the original measure. A sample item is "In general, I know who I am and where I am headed in my life."

Well-being and distress. Self-esteem was operationalized using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This questionnaire was translated into Dutch by Van der Linden, Dijkman, and Roeders (1983), who have provided substantial validity and reliability information for this Dutch translation. A sample item is "I feel that I have a number of good qualities." This scale contains 10 items scored on a 4-point scale, ranging from 1 (*does not apply to me at all*) to 4 (*applies to me very well*).

TABLE 1

Cronbach's Alpha Coefficients and Correlations Among All Study Variables ($N = 399$)

Variable	1	2	3	4	5	6	7	8
1. Autonomous orientation	.78	.08	-.08	.14**	.14**	.20***	.17***	-.17***
2. Controlled orientation		.71	.28***	-.03	-.03	-.05	-.03	.06
3. Impersonal orientation			.80	-.21***	-.18***	-.43***	-.53***	.40***
4. Commitment making				.72	.33***	.50***	.24***	-.25***
5. Identification with commitment					.80	.35***	.22***	-.24***
6. Identity integration						.79	.51***	-.56***
7. Self-esteem							.89	-.58***
8. Depressive symptoms								.85

Note. Values reported on the diagonal are Cronbach's alpha coefficients.

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

Depressive symptoms. Depressive symptoms were measured using the 12-item version of the Center for Epidemiologic Studies Depression Scale (Roberts & Sobhan, 1992). This questionnaire was translated into Dutch by Hooge, Decaluwé, and Goossens (2000). Participants were asked to indicate how often they experienced various symptoms of depression during the week prior to assessment. Items were scored on a 4-point scale, ranging from 1 (*seldom*) to 4 (*most of the time or always*). A sample item is “During the last week, I felt depressed.”

Procedure

Following a detailed briefing, students in the present study participated in a collective testing session in October 2004 and received course credit for attending these sessions; none of these students refused to participate. Participants were informed that anonymity was guaranteed.

Plan of Analysis

Using Lisrel Version 8.53 (Jöreskog & Sörbom, 1993), we used path analysis to examine the primary hypotheses. Because previous studies (e.g., Soenens et al., 2005) have found some mean differences by gender on the study variables, gender was controlled by drawing paths from gender to each of the constructs (Bollen, 1989). In addition, to test for potential moderating effects of gender on the path coefficients examined, we performed a multigroup analysis to check whether the relationships observed would be equivalent across gender. Preliminary analyses provided some evidence of nonnormality in the variables assessed. Consequently, the Satorra–Bentler scaled chi-square statistic (SBS- χ^2 ; Satorra & Bentler, 1994) was used, which adjusts the obtained model chi-square statistic based on the amount of nonnormality.

With respect to Hypotheses 1 and 2, which refer to mediation, we followed the analytic procedures recommended by Holmbeck (1997). Specifically, the following three models were estimated and compared: (a) a direct effects model including only the commitment dimensions as predictors of adjustment, (b) a full mediation model in which the commitment dimensions are only indirectly related to adjustment through identity integration, and (c) a partial mediation model including both direct paths from the commitment dimensions to adjustment and indirect paths through identity integration. Mediation is demonstrated when adding the direct paths in Model c does not improve model fit compared with Model b. In such cases, the direct paths from the commitment dimensions to adjustment are reduced to nonsignificance when identity integration is added to the model. Model c was estimated in two steps: the first with direct paths from commitment making to adjustment (Model c) and the second with direct paths from identification with commitment to adjustment (Model d).

Finally, Hypotheses 3a, 3b, and 3c, which refer to the causality orientations as motivational underpinnings of the identity formation process, were tested by evaluating the

significance of the corresponding paths in the model. In every path model estimated, we used standard model fit indices (Quintana & Maxwell, 1999). The SBS- χ^2 should be as small as possible, preferably nonsignificant; the root mean square error of approximation (RMSEA) should be less than .08; and the comparative fit index (CFI) should exceed .95.

Results

Discriminant Validity of the Identity Measures

To ascertain the discriminant validity among the three identity subscales, we combined items randomly into three parcels for each identity measure. These parcels were then used as indicator variables in a confirmatory factor analysis.

Comparisons were made among four models. Model 1, which consisted of commitment making (three parcels from the EIPQ), identification with commitment (three parcels from the U-GIDS), and identity integration (three parcels from the MSEI), provided an excellent fit to the data, SBS- $\chi^2(24) = 19.41$, $p = .73$, RMSEA < .01, CFI = 1.00. Models 2, 3, and 4 each consisted of two factors. Model 2, in which the two commitment dimensions were combined into a single factor, fit the data poorly, SBS- $\chi^2(26) = 326.26$, $p < .001$, RMSEA = .17, CFI = .87. Model 3, in which commitment making and identity integration were combined, also fit the data less than adequately, SBS- $\chi^2(26) = 174.86$, $p < .001$, RMSEA = .12, CFI = .93. Model 4, in which identification with commitment and identity integration were combined, also fit the data poorly, SBS- $\chi^2(26) = 416.61$, $p < .001$, RMSEA = .20, CFI = .83. In sum, the three identity dimensions needed to be treated as distinct constructs (cf. Schwartz, 2006).

Preliminary Mean-Level and Correlational Analyses

To determine whether participants' mean scores on the measures varied by gender, we conducted a multivariate analysis of variance. As shown in Table 2, an overall multivariate effect of gender emerged, Wilks's $\Lambda = .90$, $F(8, 390) = 5.43$, $p < .001$, $\eta^2 = .10$. Follow-up univariate analyses indicated that women, on average, scored higher on the autonomous orientation, the impersonal orientation, and depressive symptoms than men did. In contrast, men scored higher on self-esteem than women did.

Table 1 presents correlations among all study variables. As expected, the three causality orientations were relatively independent, although there was some shared variance between the controlled and impersonal orientations. The autonomous orientation was positively related to the three identity constructs and to self-esteem and negatively related to depressive symptoms. The impersonal orientation was negatively related to all three identity indices and to self-esteem and positively related to depressive symptoms. The controlled orientation was not significantly related to any of the identity or adjustment measures. Commitment making and identification with commitment were positively interrelated, and identity integra-

TABLE 2
Descriptive Statistics and Mean Differences by Gender (*N* = 399)

Variable	Total Sample		Gender Differences				<i>F</i>	η^2
	<i>M</i>	<i>SD</i>	Men		Women			
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Multivariate test ^a							5.43***	.10
Autonomous orientation	4.07	0.42	3.99	0.40	4.10	0.42	4.85*	.01
Controlled orientation	2.79	0.46	2.74	0.47	2.80	0.45	1.14	.00
Impersonal orientation	2.69	0.55	2.47	0.55	2.75	0.54	17.31***	.04
Commitment making	3.26	0.44	3.22	0.49	3.27	0.43	0.77	.00
Identification with commitment	3.54	0.44	3.51	0.42	3.54	0.45	0.43	.00
Identity integration	3.17	0.47	3.16	0.47	3.17	0.47	0.06	.00
Self-esteem	3.14	0.53	3.36	0.42	3.09	0.55	17.56***	.04
Depressive symptoms	1.81	0.49	1.71	0.45	1.83	0.50	4.22*	.01

^aMultivariate analysis of variance using Wilks's multivariate criterion.

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

tion was positively related to these dimensions. Furthermore, self-esteem was positively related to the commitment dimensions and identity integration, whereas depressive symptoms evidenced an opposite pattern of associations.

The Pathway From Commitment Making to Adjustment: A Mediation Model

In all models estimated, the ratio of the number of cases to the number of free parameters exceeded 10:1 (Kline, 2005). First, the direct effects model (i.e., Model a) was saturated (i.e., zero degrees of freedom), and, by definition, it provided a perfect fit to the data. As expected, all direct effects from both commitment making and identification with commitment to self-esteem ($\beta = .19$ and $\beta = .17$, respectively) and to depressive symptoms ($\beta = -.19$ and $\beta = -.18$, respectively) were significant at $p < .05$. Second, identity integration was included in the model as a mediator (i.e., Model b). The full mediation model provided an excellent fit to the data, $SBS-\chi^2(5) = 2.67$, $p = .75$, $RMSEA < .01$, $CFI = 1.00$.

Finally, two partial mediation models were tested. In the first partial mediation model (i.e., Model c), the direct paths from commitment making to both adjustment indicators were included in the model, $SBS-\chi^2(3) = 2.17$, $p = .54$, $RMSEA < .01$, $CFI = 1.00$. As expected, this less parsimonious model did not improve fit, as indicated by a nonsignificant scaled chi-square difference test, $\Delta SBS-\chi^2(2) = 0.41$, $p = .82$. Similarly, in the second partial mediation model (i.e., Model d), the direct paths from identification with commitment to both adjustment indicators were included, $SBS-\chi^2(3) = 0.73$, $p = .87$, $RMSEA < .01$, $CFI = 1.00$. Again, this less parsimonious model did not improve fit, as indicated by a nonsignificant scaled chi-square difference test, $\Delta SBS-\chi^2(2) = 1.94$, $p = .38$. Moreover, all direct paths from both commitment making and identification with commitment to self-esteem and depressive symptoms were nonsignificant ($p > .05$) in the partial mediational models. Consequently, the full mediation model (Model b) provided the best fitting and most parsimonious

representation of the data. Sobel (1982) tests indicated that the indirect effects of commitment making and identification with commitment to depressive symptoms and self-esteem, through identity integration, were significant (absolute z values ranged from 3.57 to 7.53, $p < .001$).

Motivational Underpinnings: The Causality Orientations as Antecedents of Identity Formation

In the next set of models, the autonomous and the impersonal orientations were added to the full mediation model (i.e., Model b) as antecedents of identity formation. The controlled orientation was omitted because it was not related to any of the other variables in the model. In the first model (i.e., Model e), both causality orientations were included in Model b as antecedents. However, this model did not fit the data adequately, $SBS-\chi^2(10) = 95.59$, $p < .001$, $RMSEA = .15$, $CFI = .88$. Modification indices indicated that direct paths from the impersonal orientation to identity integration, self-esteem, and depressive symptoms needed to be included to adequately represent the data.

Consequently, these three paths were included, resulting in Model f. This model yielded an excellent data fit, $SBS-\chi^2(7) = 11.87$, $p = .11$, $RMSEA = .04$, $CFI = .99$, and is displayed in Figure 1. For simplicity, paths from gender to each of the constructs in the model are not included in the figure. In this final model, gender was significantly related to the autonomous orientation, $\beta = .11$, $p < .05$; the impersonal orientation, $\beta = .20$, $p < .001$; and self-esteem, $\beta = -.21$, $p < .001$.

To assess whether the structural relationships in this model were invariant across gender, we performed a multigroup analysis. As part of this analysis, we compared a constrained model (with all path coefficients set as equal across gender) against an unconstrained model (with all path coefficients allowed to vary across gender). No significant difference emerged, $\Delta SBS-\chi^2(13) = 4.64$, $p = .98$, indicating that the model fit equally well for men and for women.

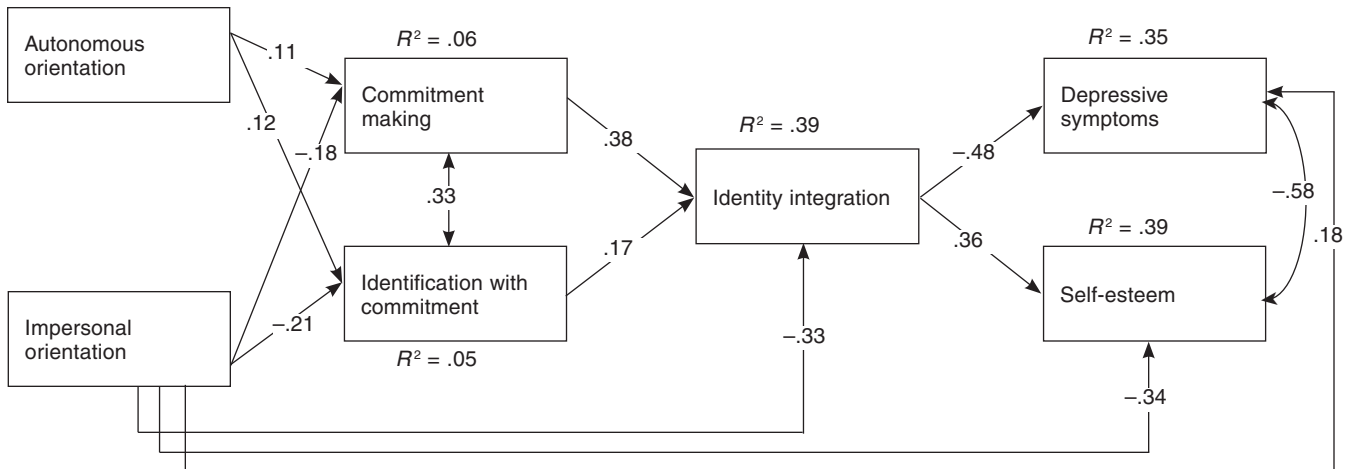


FIGURE 1

Final Model Linking Causality Orientations, Identity, and Adjustment

Note. All standardized coefficients reported are significant at $p < .05$. Gender was left out for reasons of parsimony.

In sum, the autonomous orientation was positively related and the impersonal orientation was negatively related to the commitment dimensions, which, in turn, were positively related to identity integration. Identity integration, in turn, was significantly related to well-being and distress indices, and it fully mediated the paths from both commitment dimensions both to well-being and to distress. Finally, the impersonal orientation continued to contribute negatively to identity integration and self-esteem and positively to depressive symptoms above and beyond its indirect influence through the commitment dimensions.

Alternative Model Testing

Because of the cross-sectional nature of the study, an alternative model (i.e., Model g) was tested in which arrows of Model f were reversed. This strategy allowed us to compare our hypothesized model against another model that could potentially explain the relationships among the variables. Specifically, a model was tested in which the autonomous and impersonal orientations predicted identity integration, which, in turn, predicted both commitment dimensions. The commitment dimensions, in turn, predicted adjustment. Thus, this model posits that scoring high on identity integration could enable individuals to make definite and long-lasting identity commitments (cf. Luyckx, Soenens, & Goossens, 2006). In line with Model f, paths were also estimated from the impersonal orientation to both commitment dimensions and adjustment. Model g did not provide an adequate fit to the data, $SBS-\chi^2(6) = 81.79, p < .001, RMSEA = .18, CFI = .90$.

Discussion

The present study tested an integrated model that posited some of the antecedent and mediating mechanisms through

which identity commitments exert their beneficial effects on psychological adjustment. Identity integration fully mediated the relationships of two dimensions of identity commitment (commitment making and identification with commitment) to adjustment (self-esteem and depressive symptoms). The autonomous and impersonal causality orientations functioned as motivational underpinnings of forming clear identity commitments and adhering to them.

First, the mediational findings support the contention that identity integration is a key element in identity development (cf. Côté & Levine, 1988). The present findings also suggest that identity integration should be assessed in addition to identity exploration, commitment, and identity status (cf. Dunkel, 2005). As hypothesized, identity integration appeared to account for the links between identity commitments and adjustment outcomes in the present sample. Although the cross-sectional design does not permit rigorous tests for directionality, the present results suggest that, when one has made determined identity commitments and feels certain about the commitments made, a sense of identity integration emerges (Dunkel, 2005; Grotevant, 1987). In turn, this sense of identity integration is positively related to adjustment.

Second, emerging adults' causality orientations accounted for some interindividual variability in the identity mechanisms identified in the present study. As expected, the autonomous orientation, characterized by taking reflective interest in possibilities and choices (Ryan & Deci, 2007), was positively related to making commitments and to feeling certain about commitments across content domains. These relationships, however, were not as strong as might be expected and merit further research. Schwartz, Mullis, Waterman, and Dunham (2000) speculated that commitment making might constitute a path to self-discovery, that is, of selecting those commitments that reflect one's unique and best potentialities. On the other

hand, individuals might sometimes select among alternatives that are less challenging or externally rewarded. As a result, it might not be surprising that the relationship between identity constructs (commitment making in particular) and the autonomous orientation was modest. The impersonal orientation—characterized by an impaired or uncontrolled behavioral regulation and by a pervasive lack of sense of personal control and responsibility (Ryan & Deci, 2007)—was negatively related to identity commitment. This orientation continued to contribute negatively to identity integration and self-esteem and contributed positively to depressive symptoms above and beyond its effects on commitment making and identification with commitment.

Implications for Counselors

Emerging adulthood represents a period of unprecedented freedom to explore the different options available in Western societies (Arnett, 2004). It is also a time of anxiety and uncertainty, and establishing stable and viable identity commitments becomes increasingly challenging (Schwartz, Côté, et al., 2005). Societal norms that once acted as a point of reference and guidance for individual development have been replaced by an emphasis on individual choice (Côté & Levine, 2002). Therefore, it may be important for socializing agents, such as parents (Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007) and counselors (Schwartz, Kurtines, & Montgomery, 2005), to provide some guidance on the road to an adult identity. Promoting a positive and coherent sense of identity with strong and stable commitments may help to increase self-esteem and alleviate distress (Archer, 1994).

Identity counseling is intended to facilitate movement from a less complete and coherent sense of identity to more workable and synthesized identity commitments in order to reduce confusion and uncertainty (Josselson, 1994). Waterman (1984) has proposed two metaphors regarding the formation of identity commitments (i.e., self-discovery vs. self-construction). Both the autonomous causality orientation and commitment making have been shown to be related both to self-construction and to self-discovery (Schwartz et al., 2000; Soenens et al., 2005). The present results provide further evidence that forming and adhering to identity commitments benefits from being attuned to or discovering one's inner self and acting on these inherent needs and wishes (i.e., the autonomous orientation as contrasted to the impersonal orientation). These results, coupled with previous studies focusing primarily on identity construction (see Schwartz, Kurtines, et al., 2005), may therefore underscore the importance of both approaches—discovery and construction—in studying identity formation. Consequently, both discovery and construction processes need to be addressed in counseling to obtain beneficial outcomes.

Previous quantitative and qualitative research has clearly indicated the malleability of identity processes, such as explo-

ration, self-construction, and self-discovery, and the efficacy of intervention strategies (such as cognitively and emotionally focused participatory learning strategies; Schwartz, Kurtines, et al., 2005) to change these dimensions for the better. However, the relative lack of long-term maintenance of intervention gains (Ferrer-Wreder et al., 2002) might signal that counseling alone is insufficient unless follow-up efforts are undertaken to strengthen long-term effects.

Parents can also play an important role in encouraging both self-construction and self-discovery processes (cf. Schultheiss & Blustein, 1994). Luyckx, Soenens, Goossens, and Vansteenkiste (2007), for instance, showed that parental autonomy support versus psychological control—conceptualized as the encouragement of self-initiation and volitional functioning (Ryan & Deci, 2007)—exerts beneficial effects on identity formation in emerging adulthood. This finding may be attributable to autonomy-supportive parents' respect for the inner psychological world of their children. These parents may likely be able to help their children become aware of and behave according to self-initiated and authentic goals and values (Grolnick, 2003), which, in turn, promotes the formation of commitments in accordance with the inner self. As a result, interventions to promote supportive parenting may foster the experience of autonomous functioning in adolescents and emerging adults, which, in turn, could help to promote identity development. In fact, it may be helpful for all socializing agents to include autonomy-supportive components in their motivational styles (Vansteenkiste, 2005).

Limitations and Suggestions for Future Research

The present results should be considered in light of several limitations. Directional paths imply causality—an assumption that cannot be tested with cross-sectional data. Therefore, the model tested in the present study should be replicated using a cross-lagged design. Note, however, that we were able to dismiss an alternative model that would have been supported by theory.

Second, the present sample consisted of European Caucasian participants. Previous research has demonstrated numerous empirical parallels and commonalities across American and European Caucasian adolescents and emerging adults in the structure and correlates of identity (cf. Schwartz, Adamson, Ferrer-Wreder, Dillon, & Berman, 2006; Waterman, 1999). Given the increased ethnic heterogeneity characterizing many Western countries, however, it may be important to replicate the present findings with non-White individuals (Sneed, Schwartz, & Cross, 2006). Although Schwartz, Côté, et al. (2005) found substantial consistency across three U.S. ethnic groups in identity constructs, such as commitment and exploration, it remains to be investigated how the different variables assessed interrelate in non-Western cultures or in the rapidly growing population of non-White emerging adults living in Western cultures. Third, the inclusion of only

university students likely excluded lower income and less educated emerging adults, a group that has received little attention in identity research (Schwartz, 2005). It is important, therefore, to use purposeful sampling methods to ensure that such groups are represented in identity research. Fourth, all of the data were self-reported. Accordingly, some of the covariation among the constructs under study may reflect common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). One potential solution would be to measure behavioral and cognitive aspects of motivational dispositions and adjustment more directly or to use multiple informants. Finally, we focused on global measures of identity rather than examining identity within specific content domains. This strategy was adopted partially because the identity measures used in the present study assess different domains. It may be important in future research to develop measures of both commitment dimensions and of identity integration that survey the same set of content domains (Schwartz, 2001). Furthermore, it may be advantageous to develop and use domain-specific causality orientation scales (Deci & Ryan, 1985a).

Despite these limitations, the present study highlights the importance of motivational dispositions and of identity integration, a critical aspect of Erikson's (1968) theory in the identity development process and in the relationship between identity dimensions and adjustment. It is hoped that the present findings, provided that they are replicated longitudinally and with more culturally diverse samples, will inform the development and implementation of interventions to promote identity development and healthy adjustment in emerging adults.

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