Personal Identity in College and the Work Context: Developmental Trajectories and Psychosocial Functioning

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Abstract: Personal identity formation represents a core developmental challenge for adolescents and young adults. Because much of the identity literature focuses on college students, it is necessary to conduct a detailed inquiry into the ways in which specific commitment and exploration processes develop over time for college students and for employed individuals. Two samples (456 college students and 318 employed individuals) were used to identify identity status trajectories over time and to examine external correlates of these trajectories (i.e. depressive symptoms, self-esteem, identity centrality, community integration, and sense of adulthood). Similar identity trajectories emerged in both college students and employed individuals. Four of these trajectories corresponded to Marcia's identity statuses. In addition, apart from the 'classical' or troubled diffusion trajectory, a carefree diffusion trajectory was also obtained. Whereas individuals on an identity-achieved pathway fared best in terms of the outcome measures, individuals in the troubled diffusion trajectory fared worst in terms of self-esteem, depressive symptoms, and community integration over time. Implications and suggestions for future research are discussed. Copyright © 2013 John Wiley & Sons, Ltd.

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Constructing a strong identity represents a core developmental task during the transition to adulthood (Kroger & Marcia, 2011). According to Erikson (1968), individuals may resolve the identity crisis either through the attainment of a synthesized identity or by remaining in a state of identity confusion. The stronger one's sense of identity is, the more aware one is likely to be of one's uniqueness, strengths, and weaknesses. Conversely, identity confusion is associated with a disorganized or haphazard sense of self (Schwartz et al., 2011). Because there appears to be no single identity pathway characteristic of all young people making the transition to adulthood, research has focused predominantly on distinct identity types or statuses to capture inter-individual diversity in ways of addressing the task of identity development. This research has identified important individual differences in well-being and psychosocial functioning among the identity statuses (Kroger & Marcia, 2011; Waterman, 1999).

To date, most research has relied on cross-sectional designs that cannot examine change trajectories in identity. Put differently, most research has provided static snapshots of identity types or statuses, despite the fact that identity is a developmental construct that can change in different directions for different individuals (Kunnen, 2009; Luyckx, Schwartz, Goossens, Soenens, & Beyers, 2008). In addition, the literature has been dominated by research on college samples, and, as such, relatively little is known about employed emerging adults (Luyckx, De Witte, & Goossens, 2011; Luyckx, Duriez,

Klimstra, & De Witte, 2010). To extend the literature on change patterns in personal identity during the emerging adult years, two short-term longitudinal samples consisting of college students (Sample 1) and working individuals (Sample 2) were used to identify identity trajectories using a recently developed model (Luyckx, Schwartz, Berzonsky, et al., 2008). Further, we examined how these trajectories related to constructs such as depressive symptoms, self-esteem, and sense of adulthood.

PERSONAL IDENTITY FORMATION: FROM DIMENSIONS TO STATUSES

From Erikson's (1968) writings, Marcia (1966) extracted two defining processes or dimensions of identity for empirical research: exploration and commitment. *Exploration* refers to actively questioning different identity alternatives, whereas *commitment* signifies adhering to a set of convictions, goals, and values. From these two processes, Marcia (1980) defined four statuses that reflect individual differences in how individuals tackle identity-related issues.

Achievement and foreclosure are both characterized by the presence of commitments but differ in the degree to which the person has explored prior to enacting the commitment. Achievement is characterized by commitments following a period of exploration, whereas foreclosure is characterized by commitments enacted without much prior exploration. Hence, achievement is generally viewed as the most optimal status. Moratorium and diffusion are both characterized by the relative absence of commitments but differ in terms of whether the

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person is engaging in systematic identity exploration. Individuals in moratorium are currently exploring life choices, whereas diffused individuals have engaged in little or no systematic exploration. Hence, diffusion is generally considered as being the least optimal status. Marcia's identity status paradigm has inspired more than four decades of theoretical and empirical work (Kroger & Marcia, 2011) but only recently have researchers begun to systematically examine correlates of exploration and commitment (instead of the four identity statuses).

To allow for a more fine-grained description of identity status, recent models have unpacked exploration and commitment into a larger set of more specific identity dimensions. One such model, introduced by Luyckx and colleagues (Luyckx et al., 2006; Luyckx, Schwartz, Berzonsky, et al., 2008), unpacks exploration and commitment into five separate but interrelated dimensions. Four of these five dimensions were subsumed within a two-cycle view of identity formation. The first cycle, commitment formation, represents Marcia's (1966) classical paradigm, whereas the second cycle, commitment evaluation, reflects more recent views on identity (Luyckx et al., 2006). When forming their commitments, young people can consider different identity alternatives before they decide upon a given commitment. This first cycle, therefore, may be described in terms of two dimensions, that is, *exploration in breadth* of various identity alternatives and *commitment making*. However, after young people have formed identity commitments, they can be expected to start evaluating these commitments. In so doing, they engage in an in-depth exploration of the commitments that are already in place (e.g. by gathering additional information or talking with others about the choices made), and if all goes well, the person may become increasingly certain about, and identify with, her or his commitments (Erikson, 1968; Grotevant, 1987). The second cycle, therefore, may also be described in terms of two dimensions, that is, *exploration in depth* of current commitments and *identification with commitment*.

Take, for example, an individual who enrols in college. After she has explored various possibilities for academic majors through, for instance, reading flyers or talking with others (exploration in breadth), she might choose one specific major (commitment making). The fact that she chooses a major does not imply that the identity process is finished. She will probably turn her attention inwards to evaluate the choice being made (exploration in depth). Gathering information about that specific choice can lead to a growing conviction that the chosen major is the right one (identification with that major will strengthen) or, conversely, that the chosen major is not the right one (identification with that major will weaken). If the person decides that this major is not the correct one, then exploration in breadth may resume. In sum, a critical characteristic of this developmental sequence is its reciprocal nature. Identity development has often been characterized as an alternation of exploration and re-evaluation (Grotevant, 1987; Kerpelman, Pittman, & Lamke, 1997).

Similar to Marcia's model, the four-dimensional model of Luyckx et al. (2006; Luyckx, Schwartz, Berzonsky, et al., 2008) carries the assumption that exploration is productive and helpful to the person. However, exploration in breadth

has also been linked with anxiety, depression, and low self-worth (Kidwell, Dunham, Bacho, Pastorino, & Portes, 1995; Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009). Further, previous research demonstrated that some individuals seem to get stuck in the process of exploring different identity alternatives, without being able to close down this process and arrive at self-endorsed identity commitments (Luyckx, Schwartz, Goossens, Soenens, et al., 2008). Hence, a fifth dimension, referred to as *ruminative exploration*, was added to the model (Luyckx, Schwartz, Berzonsky, et al., 2008). Ruminative exploration may occur at any stage of the identity formation process and is conceptualized as delaying or inhibiting progress in identity development. Individuals scoring high on this dimension experience difficulty settling on satisfying answers to identity questions. Partially troubled by what they perceive as inadequate progress towards personally important identity goals, they keep asking themselves the same questions and are unable to answer them adequately, resulting in feelings of uncertainty and incompetence (Luyckx, Schwartz, Berzonsky, et al., 2008).

Through the use of cluster analysis on this expanded set of identity dimensions, identity clusters similar to Marcia's original four identity statuses (i.e. achievement, foreclosure, moratorium, and diffusion), along with some new statuses, have emerged in North American, Belgian, and Italian samples (Crocetti, Luyckx, Scrignaro, & Sica, 2011; Luyckx, Schwartz, Goossens, Beyers, & Missotten, 2011; Schwartz et al., 2011). These cluster-analytic studies have made it possible to address some of the concerns that have been raised regarding the identity status paradigm. For example, because it is associated with distress and low self-worth, several authors have questioned whether the moratorium status is truly an adaptive step on the path towards the development of workable identity commitments. To the extent that young people are engaged in a 'perpetual moratorium' and are unable to make commitments, they may experience aggravated identity confusion (Marcia, 2002). For such individuals, moratorium may be more similar to diffusion than to achievement in terms of decision making and adjustment (Côté & Schwartz, 2002). Luyckx, Berzonsky, et al. (2008) indeed found that individuals in the moratorium cluster scored high on ruminative exploration in addition to exploration in breadth and exploration in depth. Consequently, moratorium might denote a type of arrested development for some individuals, blocking them from forming commitments (Côté & Levine, 2002).

With respect to diffusion, Luyckx, Schwartz, Berzonsky, et al. (2008) found two clusters. Troubled (formerly diffused) diffusion was characterized by high scores on ruminative exploration and maladjustment, signalling a troubled approach towards identity issues. Carefree diffusion was characterized by a seemingly untroubled approach towards identity. Individuals in the latter status did not appear to be distressed by their current lack of identity commitments (but see Schwartz et al., 2011, for a more thorough discussion of carefree diffusion). These two types of diffusion parallel distinctions drawn in previous research. For example, Marcia (1989) delineated between carefree and pathological types of diffusion; and Archer and Waterman

(1990) distinguished between apathetic and commitment-avoiding diffusions. Whereas apathetic diffusions display an 'I don't care' attitude that serves to mask underlying insecurities, commitment-avoiding diffusions appear to enjoy their current lack of commitments.

With respect to achievement and foreclosure, the extended model proposed by Luyckx, Schwartz, Berzonsky, et al. (2008) has provided greater insight into how these two statuses differ from one another. As expected, achieved individuals scored higher than foreclosed individuals on the two adaptive forms of exploration. Further, they also scored higher on commitment making and identification with commitment (e.g. Luyckx, Goossens, Soenens, Beyers, & Vansteenkiste, 2005). These patterns suggest that foreclosed individuals feel less immersed and involved in their commitments, possibly partly because of their closed outlook on life and their lack of exploratory strategies in dealing with identity issues (Schwartz et al., 2011; Waterman, 2007). However, research has demonstrated that achieved and foreclosed individuals score equally high on measures such as self-esteem and depressive symptoms, although achieved individuals score higher on measures tapping into eudaimonic and self-determined functioning (Luyckx, Schwartz, Berzonsky, et al., 2008; Waterman, 2007). Hence, identity commitments can prove to be as functional for foreclosed individuals as for achieved individuals, regardless of the amount of identity exploration in which they have engaged (Waterman, 1994).

IDENTITY IN COLLEGE AND IN THE WORK SETTING

Previous identity research has focused largely on samples of high school and college students. As a result, little systematic knowledge is available about identity formation in emerging and young adults graduating from college and transitioning to the work setting. The entrance into steady employment directs future decision making and, as such, could lead to the establishment of steady commitments in certain identity domains (Buhl, 2007; Luyckx, Schwartz, Goossens, & Pollock, 2008). Hence, emerging adults at work may be more inclined to make life decisions on identity-related topics which were not that salient when they were still in college (Montgomery & Côté, 2003; Yoder, 2000). Further, the stress associated with the pressures of choosing a career and transitioning from post-secondary education to work life may decrease, at least temporarily, once one has committed to a career (Kenny & Sirin, 2006). Conversely, when emerging adults are still in college, they are granted more freedom to explore various identity alternatives, experiment with various social roles, and postpone enacting firm identity commitments (Arnett, 2000). Indeed, recent research using the five-dimensional identity model has suggested that college students were somewhat less likely than their working counterparts to have made identity commitments with respect to future plans and were more likely to engage in adaptive and ruminative forms of exploration (Luyckx, Schwartz, Goossens, & Pollock, 2008).

However, of crucial importance, the identity statuses previously obtained in college samples were largely replicated in working emerging adults in a recent study using data from the baseline assessment of the second sample reported in the present article (Luyckx et al., 2010). Hence, despite the fact that some differences may emerge between college students and employed individuals on how high or low they score on certain identity processes, the general ways of dealing with identity issues (e.g. striving for identity achievement versus being in a state of moratorium) were largely replicated across both settings, supporting the validity of Marcia's (1966) status paradigm. However, as noted, longitudinal research on identity status trajectories in emerging adulthood has been largely limited to college samples (e.g. Luyckx, Schwartz, Goossens, Soenens, et al., 2008). As a result, with regard to college students who have transitioned to the workforce, it is not clear what trajectories might be derived from levels of and changes in exploration and commitment dimensions over time. As such, one can examine whether stability and change in exploration and commitment might be a function of (or, put differently, might be moderated by) status trajectory. For instance, diffused individuals could be characterized not only by the lowest scores on certain identity dimensions but also by additional decreases over time. In sum, by focusing on both college students and employed individuals within a longitudinal framework, the present study aims to create a more complete picture of identity status trajectories as previously performed in the literature. More specifically, we examine whether similar status trajectories can be observed across both college and working contexts.

IDENTIFYING IDENTITY STATUS TRAJECTORIES THROUGH LATENT CLASS GROWTH ANALYSIS

In an attempt to identify trajectories, we used latent class growth analysis (LCGA; Nagin, 2005). LCGA summarizes longitudinal data by modelling individual-level variability in developmental trajectories through a small number of classes that are defined by unique starting points (intercepts) and rates of change (slopes) (Nagin, 2005). Such an approach fully capitalizes on the developmental nature of the data. However, although LCGA is frequently conceived of as a tool to identify distinct and mutually exclusive subgroups of individuals within a single population, Johnson, Hicks, McGue, and Iacono (2007) cautioned against such a strong assumption of distinctiveness. Hence, following Nagin (2005), we used LCGA to describe the hypothesized diversity in developmental patterns in the population and to assess how this diversity was related to important psychosocial correlates. As such, the use of LCGA in the present article is not an attempt to 'carve nature at its joints' but, instead, constitutes a systematic approach to capture developmental heterogeneity within the population and to characterize individuals whose developmental patterns deviate from the average trajectory observed (Johnson et al., 2007).

Only recently has LCGA been applied to the identity field (Luyckx, Schwartz, Goossens, Soenens, et al., 2008; Meeus, van de Schoot, Keijsers, Schwartz, & Branje, 2010), and the status trajectories identified closely resembled Marcia's

statuses (Meeus, 2010). In a previous study on college women (Luyckx, Schwartz, Goossens, Soenens, et al., 2008), the four trajectory classes were differentiated primarily on the basis of initial levels of commitment and exploration dimensions and less so on over-time changes in these dimensions. For instance, individuals in the achievement trajectory (which was labelled as Pathmakers) were differentiated from individuals in the moratorium trajectory (which was labelled as Searchers) primarily on the basis of levels of commitment making, with achieved individuals scoring higher over time. A small developmental difference in commitment making did emerge between the achieved and moratorium classes.

Readers should notice, however, that a number of additional features of the present study were not addressed in this previous study. First, ruminative exploration was not measured in earlier studies on identity status trajectories. Second, identity was assessed at a global level in this previous study, summing identity scores across ideological and interpersonal domains and potentially masking differential changes over time. Previous research has demonstrated that, depending on the domain under study (e.g. education versus friendship; Klimstra et al., 2010), identity dimensions can change in different directions over time. As a result, it is important to utilize a single identity domain or else to analyse each domain separately. Hence, in the present study, we focused on a single identity domain—future plans and goals. By setting future-oriented goals, exploring different identity alternatives, and committing to certain life paths, adolescents and emerging adults can direct their own social development and can negotiate their passage into adulthood (Côté & Levine, 2002; Erikson, 1968; Nurmi, Poole, & Seginer, 1995). In the next section, we describe our study hypotheses with respect to identity status trajectories in this specific domain and how these trajectories relate to dimensions of psychosocial functioning.

THE PRESENT STUDY

The present study was conducted to pursue two major research goals. First, we set out to examine identity trajectory classes in both college students and employed individuals using two three-wave longitudinal datasets. With respect to employed individuals, our sample consisted primarily of individuals who had received post-secondary education in the past to examine whether continuity in identity status would emerge when transitioning to the work context. Second, using multi-group latent growth curve modelling (Duncan, Duncan, Strycker, Li, & Alpert, 1999), we sought to characterize the trajectory classes that we obtained by relating them to developmental trajectories of identity centrality, depressive symptoms (Samples 1 and 2), self-esteem (Sample 1), community integration, and sense of adulthood (Sample 2) over time.

Research goal 1: identifying trajectory classes

We hypothesized that at least five status trajectories would be identified in both samples: achievement, foreclosure, moratorium, carefree diffusion, and troubled diffusion. With respect to mean levels of the different identity dimensions, we

hypothesized that achievement would be characterized by relatively high scores on all dimensions, except for a low score on ruminative exploration. Foreclosure would be characterized by high scores on the commitment dimensions (but somewhat lower than the achievement trajectory) and low scores on the exploration dimensions. Moratorium would be characterized by low scores on the commitment dimensions and high scores on the exploration dimensions. Carefree diffusion would be characterized by low to moderate scores on all five identity dimensions, whereas troubled diffusion would be characterized by high scores on ruminative exploration and low scores on all of the other dimensions (especially on the commitment dimensions). Hence, troubled-diffused individuals do appear to engage in some identity work, albeit mainly a counterproductive and ruminative form of exploration, whereas carefree-diffused individuals largely seem uninterested in identity issues (Schwartz et al., 2011; Skorikov & Vondracek, 2011).

With respect to developmental changes in the identity dimensions within these status trajectories, our expectations were less clear. At a general level, we hypothesized that, in line with the work of Luyckx, Schwartz, Goossens, Soenens, et al. (2008), differential changes among the status trajectories would be less pronounced as compared with differences in mean levels. However, the use of the five-dimensional model in assessing identity processes within a specific domain (which increases measurement sensitivity; Goossens, 2001) might render the present study more suitable to assess such differential changes over time.

Research goal 2: external correlates

For all the different external correlates included, our hypotheses are again ordered as in the previous section. First, we describe our hypotheses with respect to mean levels. Second, we describe our hypotheses with respect to developmental changes.

Depressive symptoms and self-esteem

Of the many facets of adjustment and well-being that differentiate the four statuses, depressive symptoms and self-esteem allow for relatively clear discrimination among the statuses (Kroger & Marcia, 2011; Luyckx, Schwartz, Goossens, Soenens, et al., 2008). We hypothesized that the high-commitment statuses would be characterized by the lowest and highest levels, respectively. Troubled diffusion and, to a lesser extent, moratorium would be accompanied by the highest levels on depressive symptoms and the lowest levels on self-esteem (Luyckx, Schwartz, Berzonsky, et al., 2008; Schwartz et al., 2011). In terms of developmental changes, self-esteem tends to increase during adolescence and emerging adulthood (Erol & Orth, 2011), and depressive symptoms tend to decrease during the twenties for most individuals (Galambos & Krahn, 2008). In the present study, we tentatively hypothesized that developmental changes in self-esteem and depressive symptoms would be more or less pronounced for individuals categorized in different identity status trajectories. For instance, individuals in achievement and foreclosure might experience the steepest increases in self-esteem, whereas individuals in troubled diffusion might experience the smallest increases (or even decreases).

Identity centrality

In addition, we added three measures that are used less frequently in identity status research but that have clear implications for identity theory (Côté & Schwartz, 2002; Vignoles, Regalia, Manzi, Golledge, & Scabini, 2006). Identity centrality refers to the importance that individuals attach to several personal identity issues, such as future plans, goals, and values, and how central these issues are to their sense of self (Cheek, Tropp, Chen, & Underwood, 1994; Vignoles et al., 2006). Individuals in certain identity statuses, such as carefree diffusion, are expected to attach less value to identity issues as compared with individuals who engage in proactive identity work and strive for self-endorsed identity commitments. However, measures of identity centrality or importance have not been previously related to identity status.

In line with research demonstrating a positive association between identity centrality and an orientation towards proactive exploration (Berzonsky, 2011), we hypothesized that the status trajectories characterized by pro-active exploration—characteristic of individuals who invest a great deal of energy in identity issues—would be characterized by the highest levels over time. As such, achievement and moratorium would be associated with the highest levels on identity centrality. With respect to the diffused statuses, we hypothesized carefree diffusion to score lowest on identity centrality. Previous research indicated that individuals in troubled diffusion do seem to be preoccupied with identity issues given their elevated scores on ruminative exploration. As such, we hypothesized that troubled diffusion would score higher on identity centrality compared with carefree diffusion. We did not advance specific hypotheses with respect to developmental changes in identity centrality given the lack of previous longitudinal research. However, we explored whether differential changes in identity centrality could be observed across the various identity trajectories.

Community integration and sense of adulthood

Finally, community integration and sense of adulthood represent central constructs within the identity capital model (Côté, 1996), which was developed to gain an understanding of how individuals can develop the resources necessary to function effectively within the college setting and the workplace of today's late-modern society (Côté, 2002). This model proposes that, by investing in pro-active identity exploration and committing to certain alternatives, individuals can acquire a set of identity capital assets enabling them to address the many daily challenges with which they are confronted. Indicators of identity capital refer to self-definition and social integration: developing and adhering to an individualized life project and resolving adult identity issues (i.e. sense of adulthood) and securing community memberships that are enriching and gratifying (i.e. community integration) (Côté, 2002). As such, the identity capital model connects the intrapersonal or psychological components of identity exploration and commitment with an interpersonal or sociological view on identity (Côté & Schwartz, 2002).

To date, only a limited number of studies have focused on the resolution of the identity stage as captured within the identity capital model—specifically entry into adulthood and

finding one's niche in a validating community (Côté, 1997). Côté and Schwartz (2002) found the identity capital model to be meaningfully related to identity status. Individuals in the achieved status were more likely to report community integration and to have attained a sense of adulthood as compared with diffused and moratorium individuals. Hence, with respect to mean levels, we hypothesized that the achievement trajectory would score highest on community integration and sense of adulthood, whereas moratorium and the diffusion trajectories would score lowest. With respect to developmental changes, general increases in community integration and sense of adulthood are expected to emerge through emerging and young adulthood and, possibly, more so for individuals belonging to specific identity status trajectories. For instance, individuals in achievement might not only score higher on finding a validating community but could also succeed in doing so at a faster rate as compared with individuals in the diffused trajectories. In sum, whereas clear hypotheses could be put forward for differences among the trajectory classes in levels of these different correlates, extant literature does not support clear hypotheses with respect to differential developmental changes in these correlates.

METHOD

Participants and procedure

Data for Sample 1 were collected at a large university (that mainly attracts Caucasian students from middle-class backgrounds) in the Dutch-speaking part of Belgium. The first wave was collected at the end of 2009. Students participated in three measurement waves within a single academic year, each 3 months apart. Participants were informed about the purpose of the study before the Time 1 assessment. All participants signed a standard consent form before participating at Time 1. During the consent process, participants were informed that they could refuse or discontinue participation at any time. Each student was assigned a unique code number to protect her/his confidentiality. At Time 1, all participants were freshmen from the Faculty of Psychology and Educational Sciences. Assessments were organized in collective testing sessions for which students received course credit. Our sample was comprised of 456 students (84.9% women; 94% Caucasian). Mean participant age at Time 1 (T1) was 18.34 years ($SD = 1.38$; range 17 to 29). At T2, 409 (89.7%) and, at T3, 390 (85.5%) participated again.

Sample 2 consisted of 318 Dutch-speaking Belgian individuals (74% women; 97% Caucasian) who were contacted by the first or last author via e-mail and social media. All participants gave their consent and agreed to participate in an online survey. The mean age was 29.10 years ($SD = 4.86$; range 21–40). Slightly more than half (52.5%) reported being married or living with their partner (with an additional 10.4% having a romantic partner without living together), and 30% reported having children. The vast majority (93.7%) of participants had received post-secondary education in the past (i.e. attended college or university). A total of 77.6% of participants were working full time, 17.3% were working part time, and 5.7%

were unemployed. A total of 66% were working in the social sector (such as education, health care, and welfare); and 21.1% were working in the governmental or public service sector. Of those participants who were employed, 44% were on temporary contracts, and the remaining 56% were on permanent contracts. Mean organizational tenure was 3.87 years ($SD = 3.61$; range 0 to 17). At 6 (T2) and 12 months (T3) after the initial measurement (T1), follow-up assessments were completed. At T2, 245 (77%) and, at T3, 228 (71.7%) participated again.

In both Samples 1 and 2, participants with and without complete data were compared using Little's (1988) Missing Completely at Random test on all study variables. A non-significant Missing Completely at Random test statistic in Sample 1, $\chi^2(216) = 14.49$, $p = 1.00$, and Sample 2, $\chi^2(45) = 0.44$, $p = 1.00$, suggested that missing values could be reliably estimated. Accordingly, to handle cases with missing values, we used the full information maximum likelihood procedure provided in MPLUS 4.0 (Muthén & Muthén, 2002), which produces less biased and more reliable results as compared with more conventional methods such as listwise deletion (Enders, 2010).

Questionnaires

Identity dimensions

Participants completed the Dimensions of Identity Development Scale, which was developed in Dutch and provides highly reliable scores with a clear factor structure in high school and college student samples (Luyckx, Schwartz, Berzonsky, et al., 2008). The identity processes were measured using five items apiece. Each item was responded to on a 5-point Likert-type rating scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include 'I have decided on the direction I want to follow in my life' (commitment making), 'I sense that the direction I want to take in my life will really suit me' (identification with commitment), 'I regularly think over a number of different plans for the future' (exploration in breadth), 'I regularly talk with other people about the plans for the future I have made for myself' (exploration in depth), and 'It is hard for me to stop thinking about the direction I want to follow in my life' (ruminative exploration). Cronbach's alphas ranged between .76 and .92 at Time 1, .81 and .90 at Time 2, and .84 and .92 at Time 3 in Sample 1 and between .81 and .89 at Time 1, .82 and .90 at Time 2, and .83 and .89 at Time 3 in Sample 2.

Identity centrality

Identity centrality was measured with the personal subscale (eight items) of the Aspects of Identity Questionnaire III developed by Cheek et al. (1994). Participants rated how important or central various personal identity components or attributes (e.g. personal goals, plans, knowledge, values, and thoughts) are to their sense of self on a 5-point Likert-type rating scale, ranging from 1 (*not important to my sense of who I am*) to 5 (*extremely important to my sense of who I am*). Validity data are presented by Cheek (1989) and Cheek et al. (1994). Cronbach's alpha was .79 at each time point in

Sample 1 and .79 at Time 1, .78 at Time 2, and .77 at Time 3 in Sample 2.

Depressive symptoms

Depressive symptoms were measured using the 12-item Center for Epidemiologic Studies Depression Scale (Radloff, 1977; Roberts & Sobhan, 1992). The Center for Epidemiologic Studies Depression Scale was specifically designed for use with non-clinical samples and is frequently used in survey research. Participants were asked to indicate how often they experienced various symptoms of depression during the week prior to assessment. Items were responded to using a 4-point Likert-type rating scale, ranging from 0 (*seldom*) to 3 (*most of the time or always*). Cronbach's alpha was .85 at Time 1, .87 at Time 2, and .88 at Time 3 in Sample 1 and .83 at Time 1, .86 at Time 2, and .87 at Time 3 in Sample 2.

Self-esteem

Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This scale contains 10 items scored on a 4-point Likert-type rating scale, ranging from 1 (*does not apply to me at all*) to 4 (*applies to me very well*). This questionnaire was translated into Dutch by Van der Linden, Dijkman, and Roeders (1983). These authors have provided substantial evidence for validity and reliability. A sample item is 'I feel that I have a number of good qualities'. Cronbach's alpha in Sample 1 was .92 at Time 1, .92 at Time 2, and .93 at Time 3.

Identity capital

Côté (1997) developed the Identity Stage Resolution Index (ISRI), which is used as a proxy for identity capital accumulation from late adolescence through young adulthood. The ISRI was used to assess the extent to which participants have reached a subjective sense of adulthood (three items) and community integration (four items). All items were scored on a 5-point Likert-type rating scale ranging from 1 (*not at all true*) to 5 (*entirely true*). Sample items read, 'I consider myself to be an adult' and 'I have found my niche in life', respectively. Previous research has provided evidence for the factorial validity of ISRI scores in Dutch-speaking emerging and young adults (Luyckx, De Witte, & Goossens, 2011). Cronbach's alphas in Sample 2 for sense of adulthood and community integration were .81 and .66 at Time 1, .75 and .69 at Time 2, and .81 and .68 at Time 3.

RESULTS

Preliminary analyses

Means and standard deviations are displayed in Table 1. Table 2 presents all correlations between the identity dimensions and the outcome variables at Times 1–3. At each time point, the two commitment dimensions were related positively to identity centrality, self-esteem, community integration, and sense of adulthood and negatively to depressive symptoms. Exploration in breadth and exploration in depth

Table 1. Descriptive Statistics of Study Variables in Samples 1 (college) and 2 (work context)

Variable	M (SD) Time 1	M (SD) Time 2	M (SD) Time 3
Sample 1 (college)			
Commitment making	3.73 (0.84)	3.58 (0.80)	3.58 (0.79)
Identification commitment	3.50 (0.72)	3.52 (0.70)	3.51 (0.73)
Exploration in breadth	3.71 (0.68)	3.48 (0.75)	3.53 (0.78)
Exploration in depth	3.53 (0.67)	3.31 (0.75)	3.37 (0.76)
Ruminative exploration	2.82 (0.86)	2.82 (0.85)	2.82 (0.88)
Identity centrality	4.00 (0.51)	3.94 (0.50)	3.94 (0.49)
Depressive symptoms	0.92 (0.52)	0.90 (0.51)	0.86 (0.50)
Self-esteem	3.77 (0.72)	3.80 (0.67)	3.94 (0.68)
Sample 2 (work context)			
Commitment making	3.60 (0.78)	3.61 (0.69)	3.70 (0.64)
Identification commitment	3.58 (0.66)	3.61 (0.58)	3.67 (0.57)
Exploration in breadth	3.60 (0.85)	3.51 (0.78)	3.43 (0.74)
Exploration in depth	3.40 (0.79)	3.34 (0.70)	3.37 (0.68)
Ruminative exploration	2.72 (0.98)	2.62 (0.87)	2.60 (0.80)
Identity centrality	4.18 (0.48)	4.15 (0.42)	4.13 (0.41)
Depressive symptoms	0.71 (0.47)	0.73 (0.44)	0.71 (0.43)
Community integration	3.44 (0.70)	3.49 (0.59)	3.57 (0.55)
Sense of adulthood	3.78 (0.75)	3.81 (0.63)	3.87 (0.64)

were related positively to identity centrality and largely unrelated to depressive symptoms and self-esteem. Ruminative exploration was unrelated to identity centrality, positively related to depressive symptoms, and negatively related to self-esteem. Exploration in breadth and exploration in depth were unrelated to community integration and sense of adulthood, whereas ruminative exploration was related negatively to these variables.

Research goal 1: identifying trajectory classes

The LCGAs were performed on all five identity dimensions simultaneously[1] (Luyckx, Schwartz, Goossens, Soenens, et al., 2008). In all of these models, the path from the slope to the indicator at Time 1 was fixed to 0 so that the intercept would represent the initial level. Given the equally spaced measurement intervals, subsequent linear slope pattern coefficients were fixed at 1 and 2 for Times 2 and 3, respectively. Several criteria were used to decide on the number of latent classes (Muthén & Muthén, 2000; Nagin, 2005). These criteria do not always clearly indicate a single best-fitting model. Hence, it is important to balance objective fit with parsimony to arrive at a meaningful solution (Johnson et al., 2007). First, the Bayesian information criterion (BIC) statistic for a solution with k classes should be lower than for a solution

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[1] As requested by an anonymous reviewer, ancillary analyses were performed in which identity centrality was included in the latent class growth analyses in addition to the five identity dimensions. For these five identity dimensions, results were highly similar as the ones reported here, with the same trajectory classes emerging (and each consisting of approximately the same number of participants as the trajectory classes reported here). Further, in these latent class growth analyses, the results for identity centrality were completely in line with the multigroup analyses reported. For instance, in Sample 1, achievement scored highest on identity centrality, followed by moratorium. Carefree diffusion scored lowest on identity centrality. The foreclosure and troubled diffusion classes scored in between these other classes on identity centrality.

with $k - 1$ classes, suggesting that adding classes improves model fit. Second, classification quality was assessed by entropy (E), a standardized summary measure of the accuracy with which individuals are placed into the classes on the basis of the posterior classification probabilities. Entropy ranges from 0.00 to 1.00, with values of .75 or higher indicating accurate classification (Reinecke, 2006). Third, we evaluated the usefulness of the classes (Muthén, 2004; Nagin, 2005). If a solution with k classes was to emerge in which certain classes were difficult to interpret or appeared to represent variations on a common theme, the more parsimonious solution with $k - 1$ classes was chosen.

Table 3 presents all BIC and entropy values, as well as the trajectory class frequencies for LCGA solutions with two through six classes. In the six-class solution, in Sample 1, one of the classes consisted of only 3% of the sample (and appeared to represent a variation on one of the other classes), and in Sample 2, some classes were difficult to interpret in terms of substantive meaning. Hence, the more parsimonious five-class solution was selected in both samples. This final solution had a lower BIC (Sample 1: 10 632.15; Sample 2: 8241.68) than the four-class solution (Sample 1: 12 758.57; Sample 2: 8306.80) and an adequate entropy value (Sample 1: $E = 0.86$; Sample 2: $E = 0.87$). No age [Sample 1: $F(4, 441) = 1.41$, $p = .23$; Sample 2: $F(4, 313) = 1.88$; $p = .11$] or gender [Sample 1: $\chi^2(4) = 2.66$, $p = .62$; Sample 2: $\chi^2(4) = 5.77$, $p = .22$] differences were found across classes.

Table 4 provides the estimates of mean intercepts and slopes for all trajectory classes. The five trajectory classes obtained were in line with our hypotheses. Class 1 (achievement; 24% of Sample 1 and 31% of Sample 2) consisted of individuals scoring relatively high on all dimensions, except for a low score on ruminative exploration. Commitment making and exploration in depth tended to decrease over time in Sample 1, and exploration in breadth tended to decrease over time in Sample 2. Class 2 (foreclosure; 19% and 21%, respectively) consisted of individuals scoring moderately high on commitment (although not as high as achievement) and low on exploration. All identity scores in this class remained fairly stable over time. Class 3 (moratorium; 32% and 30%, respectively) consisted of individuals scoring moderately low on commitment and high on exploration. Whereas identification with commitment tended to increase over time, exploration in breadth and in depth tended to decrease in Sample 1. Ruminative exploration tended to decrease over time in Sample 2. Class 4 (carefree diffusion; 19% and 6%, respectively) consisted of individuals scoring low on all dimensions, except for a moderate score on ruminative exploration in Sample 1. All exploration dimensions further decreased over time. Finally, Class 5 (troubled diffusion; 6% and 12%, respectively) consisted of individuals scoring low on commitment, moderately low on exploration in breadth and in depth, and high on ruminative exploration. Identity scores remained fairly stable over time. As such, the five identity statuses observed in prior cluster-analytic studies based on the five-dimensional model emerged in Samples 1 and 2, with change patterns in the identity dimensions depending on the trajectory in question.

Table 2. Correlations between identity dimensions and outcomes at times 1–3 in Samples 1 (college) and 2 (work context)

Variable	Commitment making	Identification commitment	Exploration in breadth	Exploration in depth	Ruminative exploration
Identity centrality					
Time 1	0.24***/0.18**	0.19***/0.24***	0.20***/0.35***	0.25***/0.31***	−0.07 /0.05
Time 2	0.26***/0.17**	0.32***/0.26***	0.40***/0.26***	0.43***/0.30***	0.06/0.01
Time 3	0.17***/0.20***	0.25***/0.37***	0.24***/0.27***	0.25***/0.34***	0.01/0.00
Depressive symptoms					
Time 1	−0.18***/−0.32***	−0.27***/−0.35***	−0.01/0.12*	−0.05 /0.02	0.38***/0.45***
Time 2	−0.18***/−0.36***	−0.26***/−0.45***	0.19***/0.09	0.05 /−0.01	0.46***/0.45***
Time 3	−0.26***/−0.38***	−0.29***/−0.41***	0.08 /0.10	0.01/−0.02	0.43***/0.41***
Self-esteem					
Time 1	0.21***/—	0.34***/—	0.04/—	0.09/—	−0.36***/—
Time 2	0.27***/—	0.38***/—	−0.09/—	−0.01/—	−0.48***/—
Time 3	0.33***/—	0.36***/—	0.00/—	0.05/—	−0.44***/—
Community integration					
Time 1	—/0.48***	—/0.44***	—/−0.07	—/0.06	—/−0.41***
Time 2	—/0.56***	—/0.45***	—/−0.16*	—/−0.11	—/−0.53***
Time 3	—/0.60***	—/0.52***	—/−0.11	—/0.01	—/−0.55***
Sense of adulthood					
Time 1	—/0.50***	–/0.46***	—/0.05	—/0.05	—/−0.36***
Time 2	—/0.49***	—/0.37***	—/−0.07	—/−0.04	—/−0.40***
Time 3	—/0.56***	—/0.42***	—/−0.04	—/0.02	—/−0.39***

Note. The first coefficient is from Sample 1; the second coefficient is from Sample 2.
*$p < .05$,
**$p < .01$,
***$p < .001$.

An ancillary set of analyses examined the degree to which intercept and slope terms for each status trajectory would be equivalent across the two samples. Hence, we estimated a multigroup model using sample as the grouping variable. We used the KNOWNCLASS command available in MPLUS and specified the five identity status trajectories as the latent classes. As is standard in invariance testing, we estimated the following: (a) a model with intercepts and slopes for each trajectory class free to vary across samples and (b) a model with intercepts and slopes for each trajectory class constrained equal across samples. Chi-squared difference tests, based on the log-likelihood values for the unconstrained and constrained models, indicated that, whereas all slope values for each status trajectory could be set equal across samples (e.g. foreclosure in college students and foreclosure in employed individuals) [$\Delta\chi^2(25) = 25.08$, $p = .46$)] intercept values were significantly different across trajectory classes [$\Delta\chi^2(25) = 56.51$, $p < .001$]. Hence, these analyses indicated that, although some mean-level differences for corresponding status trajectories emerged between college students and employed individuals, developmental changes were largely replicated for these status trajectories across the two samples.

Research goal 2: external correlates

Because the average posterior class membership probabilities ranged from .87 to .96 in Sample 1 and from .90 to .97 in

Table 3. Results of different latent class growth analyses in Samples 1 (college) and 2 (work context)

Solution	BIC	Entropy	Trajectory group prevalence (%)					
			1	2	3	4	5	6
Sample 1: college								
2-class	13399.772	0.856	53	47				
3-class	13570.713	0.848	28	25	47			
4-class	12758.574	0.865	24	44	20	12		
5-class	**12612.481**	**0.855**	**19**	**19**	**6**	**24**	**32**	
6-class	12511.111	0.865	13	25	3	17	8	34
Sample 2: work context								
2-class	9031.273	0.822	63	37				
3-class	8520.763	0.859	21	46	33			
4-class	8306.795	0.861	32	33	21	14		
5-class	**8241.678**	**0.870**	**31**	**30**	**21**	**6**	**12**	
6-class	8174.294	0.847	13	7	21	31	21	7

Note. BIC = Bayesian Information Criterion. The solutions in bold were selected.

Table 4. Final parameter estimates of latent class growth analysis in Samples 1 (college) and 2 (work context)

Parameters	Total sample	Identity trajectory class				
		Achievement	Foreclosure	Moratorium	Carefree diffusion	Troubled Diffusion
Study 1: college						
CM mean intercept	3.707***	4.591***	3.984***	3.569***	3.066***	2.195***
CM mean slope	−0.059**	−0.133*	−0.039	−0.045	−0.054	−0.012
IC mean intercept	3.518***	4.318***	3.771***	3.332***	2.950***	2.404***
IC mean slope	0.004	−0.029	0.015	$0.056^{\dagger}$	−0.055	0.048
EB mean intercept	3.683***	4.124***	3.275***	3.909***	3.235***	3.498***
EB mean slope	−0.104***	0.018	0.042	−0.120**	−0.316***	−0.141
ED mean intercept	3.497***	4.089***	3.262***	3.655***	2.828***	3.329***
ED mean slope	−0.096***	$−0.097^{\dagger}$	−0.050	$−0.070^{\dagger}$	−0.160***	−0.077
RE mean intercept	2.819***	2.296***	2.249***	3.284***	2.886***	4.068***
RE mean slope	−0.012	0.032	−0.011	0.036	$−0.097^{\dagger}$	−0.014
Study 2: work context						
CM mean intercept	3.590***	4.265***	3.669***	3.391***	3.262***	2.476***
CM mean slope	0.047*	−0.002	0.073	0.072	0.114	−0.043
IC mean intercept	3.581***	4.105***	3.559***	3.513***	3.340***	2.720***
IC mean slope	0.041*	0.054	0.034	0.063	−0.053	−0.029
EB mean intercept	3.602***	3.965***	2.957***	4.101***	2.192***	3.392***
EB mean slope	−0.087**	−0.198***	0.008	−0.048	−0.195*	−0.032
ED mean intercept	3.398***	3.723***	2.916***	3.795***	2.078***	3.116***
ED mean slope	−0.017	−0.015	0.055	−0.034	$−0.162^{\dagger}$	−0.053
RE mean intercept	2.714***	2.118***	2.274***	3.489***	1.782***	3.708***
RE mean slope	−0.062*	−0.055	0.039	−0.142*	−0.144	0.023

Note. CM = commitment making; IC = identification with commitment; EB = exploration in breadth; ED = exploration in depth; RE = ruminative exploration.
$^{\dagger}p < .10$.
*$p < .05$,
**$p < .01$,
***$p < .001$.

Sample 2, indicating excellent classification accuracy (Nagin, 1999), individuals were assigned to the trajectory class for which their posterior probability of group membership was highest (Luyckx et al., 2011). Next, multigroup latent growth curve modelling was conducted to investigate whether individuals belonging to the five trajectory classes changed differently across time on the psychosocial functioning variables (i.e. whether intercepts or slopes for the outcome variables differed across identity trajectory classes; Duncan et al., 1999).

First, for each outcome variable, a fully unconstrained model was estimated. Standard model fit indices were used to evaluate model fit (Kline, 2005). The chi-squared index should be as small as possible; the root mean square error of approximation (RMSEA) should be <0.10 and, preferably, <0.06; the comparative fit index (CFI) should be >0.90 and, preferably, >0.95; and the standardized root mean square residual (SRMR) should be <0.10 for adequate fit. All parameter estimates for these unconstrained models are displayed in Table 5. Next, we re-estimated the model with intercepts constrained equal across classes, and finally, we constrained slopes equal across classes. If these constrained models provided a significantly poorer fit to the data compared with the baseline model, this would suggest that the classes differ from one another on at least some of the parameters tested. As a result, follow-up multigroup models estimated which intercepts or slopes could be held equal across each possible pair of classes (analogous to pairwise comparisons in analysis of variance). As such, we could determine which trajectories differed from one another in

terms of mean intercepts and slopes. For each comparison, differences in chi-squared values between constrained and unconstrained models, relative to the degrees of freedom, indicated whether parameters could be held equal.

With respect to identity centrality, the unconstrained model provided an adequate fit to the data in both samples [Sample 1: $\chi^2(19) = 29.83$, $p = .05$; RMSEA = 0.08; CFI = 0.97; SRMR = 0.08; Sample 2: $\chi^2(13) = 16.00$, $p = .25$; RMSEA = 0.06; CFI = 0.99; SRMR = 0.06]. As illustrated in Table 5, constraining intercepts of identity centrality equal among the five trajectory classes significantly decreased model fit in both samples (Sample 1: $\Delta\chi^2(4) = 65.49$, $p < .001$; Sample 2: $\Delta\chi^2(4) = 33.71$, $p < .001$) and, hence, was not allowed. In Sample 1, follow-up analyses indicated that all pairs of status trajectories differed from one another, except for foreclosure and troubled diffusion [$\Delta\chi^2(1) = 0.20$, $p = .65$] and carefree diffusion and troubled diffusion [$\Delta\chi^2(1) = 1.00$, $p = .32$].

As expected, the achievement class was highest on identity centrality, whereas the carefree diffusion class was lowest. The moratorium class scored significantly lower than achievement but higher than the remaining status trajectories. In Sample 2, follow-up analyses indicated that all pairs of status trajectories differed from one another, except for achievement and moratorium [$\Delta\chi^2(1) = 1.02$, $p = .31$], moratorium and troubled diffusion [$\Delta\chi^2(1) = 2.08$, $p = .15$], foreclosure and carefree diffusion [$\Delta\chi^2(1) = 1.47$, $p = .23$], foreclosure and troubled diffusion [$\Delta\chi^2(1) = 1.07$, $p = .30$], and carefree diffusion and troubled diffusion [$\Delta\chi^2(1) = 3.06$, $p = .08$]. Again as expected, achievement and, to a lesser

Table 5. Baseline parameter estimates of multigroup latent growth curve modelling in Samples 1 (college) and 2 (work context)

Parameters	Identity trajectory class				
	Achievement	Foreclosure	Moratorium	Carefree diffusion	Troubled diffusion
Sample 1: college					
Identity centrality					
Mean intercept	4.254***[a]	3.886***[c]	4.033***[b]	3.773***[d]	3.840***[cd]
Mean slope	−0.047[†a]	0.035[a]	−0.037*[a]	−0.007[a]	0.052[a]
Depressive symptoms					
Mean intercept	0.772***[a]	0.740***[a]	1.040***[b]	0.950***[b]	1.389***[c]
Mean slope	−0.006[a]	−0.054*[a]	−0.027[a]	−0.024[a]	−0.054[a]
Self-esteem					
Mean intercept	4.010***[a]	4.075***[a]	3.622***[b]	3.591***[b]	3.152***[c]
Mean slope	0.069*[a]	0.091***[a]	0.055*[a]	0.118***[a]	0.051[a]
Sample 2: work context					
Identity centrality					
Mean intercept	4.323***[a]	4.027***[c]	4.263***[ab]	3.884***[c]	4.125***[bc]
Mean slope	−0.042*[a]	0.005[a]	−0.033*[a]	−0.026[a]	−0.072*[a]
Depressive symptoms					
Mean intercept	0.515***[a]	0.605***[a]	0.876***[b]	0.593***[a]	1.073***[c]
Mean slope	0.025[a]	−0.004[a]	−0.030[a]	−0.004[a]	0.020[a]
Community integration					
Mean intercept	3.803***[a]	3.450***[b]	3.197***[c]	3.739***[ab]	2.911***[d]
Mean slope	0.064*[a]	0.089**[a]	0.076**[a]	0.003[a]	0.063[a]
Sense of adulthood					
Mean intercept	4.170***[a]	3.792***[b]	3.593***[c]	3.782***[bc]	3.183***[d]
Mean slope	0.019[a]	0.079*[a]	0.036[a]	0.053[a]	0.099[†a]

Note. Within rows, intercepts and slopes differ at $p < .05$ if they different superscripts.

[†]$p < .10$,

*$p < .05$,

**$p < .01$,

***$p < .001$.

extent, moratorium scored highest on identity centrality, whereas carefree diffusion and, to a lesser extent, foreclosure scored lowest. Further, although some differential developmental changes seemed to take place, analyses indicated that identity centrality slopes could be fixed as equal among the five trajectory classes in both samples [Sample 1: $\Delta\chi^2(4) = 8.19$, $p = .08$; Sample 2: $\Delta\chi^2(4) = 4.79$, $p = .31$].

With respect to depressive symptoms, the unconstrained model provided an adequate fit in both samples [Sample 1: $\chi^2(9) = 7.27$, $p = .61$; RMSEA = 0.00; CFI = 1.00; SRMR = 0.04; Sample 2: $\chi^2(13) = 17.74$, $p = .17$; RMSEA = 0.08; CFI = 0.98; SRMR = 0.06]. As can be seen in Table 5, constraining intercepts for depressive symptoms equal across classes again resulted in a significant decrease in model fit [Sample 1: $\Delta\chi^2(4) = 47.09$, $p < .001$; Sample 2: $\Delta\chi^2(4) = 57.64$, $p < .001$]. In Sample 1, follow-up analyses indicated that all pairs of status trajectories differed from one another on depressive symptoms, except for foreclosure and achievement [$\Delta\chi^2(1) = 0.26$, $p = .61$] and carefree diffusion and moratorium [$\Delta\chi^2(1) = 2.00$, $p = .16$]. Findings with respect to these intercepts were in line with our hypotheses. The achievement and foreclosure classes scored lowest on depressive symptoms, whereas the troubled diffusion class scored highest. In Sample 2, follow-up analyses indicated that all pairs of status trajectories differed from one another, except for achievement and foreclosure [$\Delta\chi^2(1) = 2.45$, $p = .12$], achievement and carefree diffusion [$\Delta\chi^2(1) = 0.87$, $p = .35$], and foreclosure and carefree diffusion [$\Delta\chi^2(1) = 0.02$, $p = .88$]. Achievement, foreclosure, and carefree

diffusion scored lowest on depressive symptoms, whereas troubled diffusion scored highest. Further, slopes could again be constrained equal among the five trajectory classes without a significant decrease in model fit [Sample 1: $\Delta\chi^2(4) = 1.86$, $p = .76$; Sample 2: $\Delta\chi^2(4) = 2.95$, $p = .57$].

With respect to self-esteem in Sample 1, the unconstrained model provided an adequate fit [$\chi^2(11) = 14.92$, $p = .19$; RMSEA = 0.06; CFI = 0.99; SRMR = 0.03]. As displayed in Table 5 and in line with identity centrality and depressive symptoms, constraining intercepts for self-esteem equal among the five trajectory classes resulted in a significant decrease in model fit [$\Delta\chi^2(4) = 66.86$, $p < .001$]. Follow-up analyses indicated that all pairs of status trajectories differed from one another, except for foreclosure and achievement [$\Delta\chi^2(1) = 0.54$, $p = .46$] and carefree diffusion and moratorium [$\Delta\chi^2(1) = 0.11$, $p = .74$]. Findings with respect to intercepts were again in line with our hypotheses. The achievement and foreclosure classes scored highest on self-esteem, whereas the troubled diffusion class scored lowest. Further, self-esteem tended to increase over time in all status trajectories, and analyses again indicated that slopes could be fixed as equal among the trajectory classes without decreasing model fit significantly [$\Delta\chi^2(4) = 3.78$, $p = .44$].

With respect to community integration in Sample 2, the unconstrained model provided an adequate fit [$\chi^2(14) = 8.02$, $p = .89$; RMSEA = 0.00; CFI = 1.00; SRMR = 0.05]. As displayed in Table 5, constraining intercepts for community integration across trajectory classes resulted in a significant decrease in model fit [$\Delta\chi^2(4) = 82.87$, $p < .001$]. Follow-up

analyses indicated that all status trajectories differed from one another, except for achievement and carefree diffusion [$\Delta\chi^2(1) = 0.16$, $p = .69$] and foreclosure and carefree diffusion [$\Delta\chi^2(1) = 2.95$, $p = .09$]. Achievement and, to a lesser extent, carefree diffusion (which was somewhat unexpected) and foreclosure scored highest on community integration, whereas troubled diffusion scored lowest. Further, community integration tended to increase over time in most status trajectories, and analyses indicated that slopes could be constrained equal across trajectory classes with no significant decrease in fit [$\Delta\chi^2(4) = 1.26$, $p = .87$].

With respect to sense of adulthood in Sample 2, the unconstrained model provided an adequate fit [$\chi^2(10) = 4.81$, $p = .90$; RMSEA = 0.00; CFI = 1.00; SRMR = 0.04]. As can be seen in Table 5, constraining intercepts for sense of adulthood across trajectory classes resulted in a significant decrease in model fit [$\Delta\chi^2(4) = 62.38$, $p < .001$]. Follow-up analyses indicated that all status trajectories differed from one another, except for moratorium and carefree diffusion [$\Delta\chi^2(1) = 1.35$, $p = .24$] and foreclosure and carefree diffusion [$\Delta\chi^2(1) = 0.01$, $p = .92$]. The achievement cluster scored highest on sense of adulthood, whereas the troubled diffusion cluster scored lowest. Further, sense of adulthood tended to increase over time in foreclosure and troubled diffusion, but analyses indicated that constraining slopes equal across trajectory classes did not result in a significant decrease in model fit [$\Delta\chi^2(4) = 2.93$, $p = .57$]. In sum, although substantial differences in mean levels were found for the different outcome variables across the trajectory classes, change rates (slopes) for these variables did not differ significantly.

DISCUSSION

The present study was designed to chart identity status trajectories on the basis of a recently developed five-dimensional model of identity—as well as to examine how these status trajectories were related to starting points and change trajectories for identity centrality, depressive symptoms, self-esteem, community integration, and sense of adulthood. Five meaningful identity status trajectories were identified using LCGA in college students (Sample 1) and employed emerging and young adults (Sample 2). Although some mean-level differences were obtained in corresponding status trajectories across the two samples, these status trajectories were replicated in both samples and, at the same time, extended Marcia's (1966) seminal status paradigm. Specifically, we found that the identity status categories may also serve as developmental trajectories (for other studies suggesting similar conclusions, see Luyckx, Schwartz, Goossens, Soenens, et al., 2008; Meeus et al., 2010). As such, the present study provides evidence regarding short-term change dynamics in identity processes and related psychosocial variables in individuals empirically classified into different identity statuses. Although a substantial amount of emerging and young adults were found to explore pro-actively and to commit themselves to identity choices, others appeared to follow pathways characterized by worry and rumination about identity issues. As such, young adulthood might represent a time of opportunities for some, whereas others might experience more difficulties in their identity development (Arnett, 2007; Côté, 2000). In addition, the links between identity status trajectories and outcomes have the potential to advance our knowledge regarding the psychosocial functioning of young people who are attempting to develop an adult identity in unstructured, late-modern Western societies.

Research goal 1: defining identity status trajectories in college and work settings

The identity status trajectories obtained in Samples 1 and 2 were clearly parallel, suggesting a fair amount of consistency in identity resolution when transitioning from college or university to the work context. Although status trajectories were differentiated primarily in terms of initial levels of the constituent identity dimensions, some differential changes in identity dimensions were also observed. We want to emphasize again that the identification of these classes through LCGA was mainly viewed as a way to capture the intra-individual heterogeneity in developmental trajectories. Individual differences in identity trajectories are most likely continuous in nature, and hence, the boundary between trajectory classes is relatively arbitrary. Nonetheless, identifying such trajectory classes helps in characterizing the population under study in terms of developmental trends and potential correlates (Johnson et al., 2007).

First, in line with identity theory, achievement seemed to represent the primary example of striving for a synthesized identity, as illustrated by its high scores on commitment and proactive exploration in both samples (Kroger & Marcia, 2011; Schwartz et al., 2011). Achieved individuals appeared to have set clear identity goals for themselves and were able to close down the exploration process in pursuing and committing to these goals. At the same time, they remained open and flexible regarding other potential options and continued to evaluate their current commitments. However, this open approach to life did not seem to paralyse them in their identity quest, as these individuals were not hampered by identity worry or rumination (cf. Luyckx, Schwartz, Berzonsky, et al., 2008). With respect to changes in identity dimensions, ancillary analyses indicated that change patterns were not significantly different for achieved college students (Sample 1) and achieved employed individuals (Sample 2).

Readers should note that the short-term changes found in our samples most likely provide only a snapshot of long-term trajectories. The present findings (combined with the fact that most working individuals of Sample 2 were former college students) indeed seem to suggest that Samples 1 and 2 represent similar samples at different time points in the life span. To illustrate, achieved individuals in Sample 1 seemed to score higher on both exploration processes as compared with achieved individuals in Sample 2. This finding suggests that identity exploration for achieved individuals might reach its peak in the college context and potentially levels off thereafter. For moratorium individuals, however, the opposite seemed to apply when comparing results across both samples. Identity exploration was somewhat higher in working individuals in moratorium as compared with that in college students in moratorium, suggesting that for these individuals,

being in moratorium can become characterological and even further intensify over time. Hence, future research using the five-dimensional identity model should examine whether the identity trajectory classes observed in the present study represent short-term fluctuations or foreshadow long-term development.

Second, in line with our hypotheses, foreclosed individuals were also able to make firm commitments and identify themselves to a certain degree with them. However, consistent with previous cluster-analytic studies (Luyckx et al., 2005), in both Samples 1 and 2, foreclosed individuals reported significantly weaker commitment making and identification with commitment compared with their achieved counterparts. These findings again suggest that foreclosed individuals may not personally endorse their identity commitments as much as achieved individuals do (Waterman, 2007), perhaps because of their rather closed and rigid outlook on life. Both their low scores on the exploration dimensions and the finding that none of the identity dimensions changed substantially in foreclosed individuals (in either of the present samples) may reflect a strong but rigidly held identity structure. Hence, foreclosed individuals seem to function with a more or less fixed set of commitments that do not change much over time. The present findings are consistent with prior results reported by Luyckx, Schwartz, Goossens, Soenens, et al. (2008) using similar clustering methods but a longer (4 years) time span.

Third, the moratorium status trajectory identified in Samples 1 and 2 behaved as expected with respect to levels of the identity dimensions. Both in college and in the work setting, these individuals reported relatively low to moderate scores on the commitment dimensions and high levels on exploration in breadth and exploration in depth. As such, they did not seem to be satisfied with their current lack of strong commitments and searched for viable alternatives, while evaluating whatever tentative commitments they already endorsed. However, individuals in moratorium experienced anxiety and worry with respect to identity issues (as indicated by elevated scores on ruminative exploration), suggesting that they experienced uncertainty about where their explorations and experimentations would lead them (Luyckx, Schwartz, Berzonsky, et al., 2008). In contrast to achieved individuals, those in moratorium seemed to lack a strong identity foundation or a set of commitments upon which to base their explorations (Côté & Schwartz, 2002). Although being uncommitted is a hallmark of the classical moratorium status proposed by Marcia (1966), others (e.g. Meeus et al., 2010; Schwartz et al., 2011) have identified other moratorium statuses characterized by exploration in the presence of some degree of existing commitments.

Finally, as expected, two diffusion status trajectories—carefree diffusion and troubled (formerly diffused) diffusion—were identified in Samples 1 and 2. These two diffused trajectories were differentiated on the basis of not only initial levels but also developmental changes in the constituent identity dimensions. Both diffusion trajectories scored substantially below their respective sample means on commitment, but carefree diffusion was characterized by higher commitment making and identification scores. Further, both diffusion

trajectories were characterized by little systematic identity exploration over time. However, more so than individuals in carefree diffusion, individuals in troubled diffusion attempted to explore identity issues over time, albeit predominantly in a haphazard and maladaptive manner, as indicated by higher scores on ruminative exploration. Troubled-diffused individuals scored the highest of all trajectory classes on ruminative exploration in Samples 1 and 2.

In other words, troubled-diffused individuals tended to worry where their lives were headed and which choices would suit them best, without being able to translate this energy into an adequate identity search. Carefree-diffused individuals, however, did not seem to worry a lot or to be genuinely interested in identity issues in general (cf. Schwartz et al., 2011; Skorikov & Vondracek, 2011). Thus, whereas individuals in troubled diffusion might be unable to take proactive steps in identity development, individuals in carefree diffusion might be unmotivated or even unwilling to do so (Schwartz et al., 2011). In both the college and working samples, carefree-diffused people appeared to have developed some tentative commitments, but they scored the lowest on exploration in breadth and exploration in depth. Further, these exploration scores declined substantially over time in both samples. Extrapolating across the results from the two samples suggests that, at least for some carefree-diffused individuals, disinterest in identity issues may extend from the college setting into the work context, indicating that this sense of disinterest and present focus might represent a fairly stable lifestyle. Carefree diffusion might therefore correspond to what Côté (2000) has labelled as 'youthhood'—a perpetually uncommitted lifestyle characterized by a reluctance to settle down and enact adult commitments. In sum, future research should assess how aspects of motivation and competence or ability might differentiate these two types of diffused individuals and how such constructs could partially explain the divergent life pathways upon which these individuals seem to be embarking.

No significant gender differences emerged in the status trajectories in either sample. Previous research, albeit not consistently across studies, has pointed to some gender differences in status membership, with men more frequently classified into diffusion clusters and women more frequently classified into achievement (e.g. Schwartz et al., 2011). The relatively small sample sizes for some of the trajectories in Samples 1 and 2 might have obscured such gender differences in the present analyses.

Similarly, no age differences among the status trajectories within each individual sample were obtained. However, when synthesizing results across Samples 1 and 2, some overall conclusions can be drawn, and these conclusions are consistent with developmental theorizing on identity status (Meeus et al., 2010; Waterman, 1982). Whereas 24% of college students were classified in the achievement status trajectory, 31% of working emerging and young adults (most of whom had attended college when they were younger) were classified in the achievement status trajectory. Further, whereas 25% of college students were classified in one of the two diffusion clusters, only 18% of working individuals were. Interestingly, 19% of college students were diffused but could be labelled as carefree, whereas only 6% of working individuals were

carefree diffused. Apparently, being able to postpone identity issues and, yet, at the same time, being carefree and present oriented, appears to be associated with Erikson's (1950) psychosocial moratorium—which refers largely to the college years. Simply by virtue of their employment status, working emerging and young adults have taken on adult responsibilities that are likely to substantially limit the inclination (or ability) to handle life issues in a carefree and disinterested manner. It should be noted that, although some overall conclusions can be drawn from synthesizing the results across our two samples, a stronger set of conclusions could be drawn from a single cohort of college students followed through their entry into the workforce.

Research goal 2: validating and characterizing identity status trajectories

Before going into detail regarding status differences on external variables, we should emphasize that, although some differential changes over time seemed to occur, change rates were not significantly different across status trajectories for any of the outcome variables. A plausible explanation for this lack of differential change might be the short-term time intervals covered in our two samples. Nonetheless, as expected, substantial and important between-status differences emerged in absolute levels of the external variables, suggesting that some differences did emerge across identity status trajectories.

In line with our hypotheses, individuals in the achievement and moratorium trajectories scored highest on identity centrality or importance, which refers to the subjective value that one assigns to goals, values, and plans (Cheek et al., 1994). Individuals in carefree diffusion, in contrast, scored lowest on identity centrality—suggesting that these individuals do not invest substantially in identity issues because they do not find these issues to be important. These findings also provide some more insight into the exact nature of the carefree-diffused category of individuals: one possible explanation for the fact that they are carefree with respect to identity issues could be that these identity issues are just not that central to their lives and, hence, do not seem to affect their daily functioning that much. As such, the patterns of identity centrality across identity status trajectories provide supportive evidence for the labels that we have assigned to these trajectories.

Relatedly, individuals belonging to different status trajectories were differentially successful in establishing and accumulating identity capital—which was operationalized as perceiving oneself as an adult and securing membership in a validating adult community (Côté, 1997, 2002). Consistent with earlier research (Côté & Schwartz, 2002), findings from Sample 2 indicated that identity achievement can be viewed as the hallmark of identity capital acquisition. The open-mindedness, reflexivity, and goal directedness that characterize individuals following an achieved trajectory appear to provide a solid basis for negotiating the ambiguous transition to adulthood and for coping with daily challenges (Côté, 1996). The finding that the achieved trajectory scored significantly higher than the foreclosed trajectory on both indices of identity capital acquisition suggests that taking proactive steps in autonomously considering identity alternatives might

be conducive for attaining identity capital, provided that such exploratory strategies are coupled with the ability and inclination to commit to, and to identify with, the alternatives selected (Côté & Schwartz, 2002).

Rather surprisingly, in Sample 2, individuals in carefree diffusion scored as high on community integration as achieved individuals did. Apparently, once they have entered the workforce, carefree-diffused individuals might be able to find a validating community of congenial or like-minded peers just as well as identity-achieved individuals can. Such a finding could partially explain why, for some individuals, carefree diffusion might develop into a stable lifestyle even after workforce entry. Future research using network analysis could examine whether certain cliques of carefree-diffused individuals emerge throughout college and/or in the work context. Importantly, these relatively high scores on community integration were not accompanied by similarly high scores on sense of adulthood. In other words, although carefree-diffused individuals felt as integrated in a validating community as achieved individuals did, carefree-diffused individuals felt significantly less 'adult' than achieved individuals did.

Finally, with respect to depressive symptoms and self-esteem, the present set of results was consistent with findings commonly reported in the literature (Kroger & Marcia, 2011). Status trajectories characterized by high levels of commitment making (i.e. achievement and foreclosure) scored lowest on depressive symptoms and highest on self-esteem in both of our samples. In contrast, troubled diffusion scored highest on depressive symptoms and lowest on self-esteem. Again, indicative of their present-oriented and unbothered view on life, individuals in carefree diffusion scored significantly higher on self-esteem and lower on depressive symptoms compared with individuals in troubled diffusion. Further, whereas carefree-diffused individuals scored similarly to moratoriums on depressive symptoms and self-esteem in Sample 1, carefree-diffused individuals resembled achieved and foreclosed individuals in Sample 2. Carefree diffusion may therefore carry a different meaning following workforce entry than it does in the college context.

In sum, carefree diffusion might be experienced subjectively as a 'good-enough' identity for the time being, even by a minority of individuals in the workforce. Carefree-diffused individuals seem to have enacted some tentative commitments; they do not worry or ruminate about identity issues, nor do they feel the need to actively explore identity options; they feel integrated within a validating community; and they score relatively low on depressive symptoms. However, previous research has pointed to the 'dark side' of such a carefree or present-oriented lifestyle in terms of externalizing and health risk behaviours. For instance, in US college students, self-reported rates of dangerous drug use (hard drugs, inhalants, injecting drugs, and misuse of prescription drugs) were between two and three times greater in the carefree diffusion status than in any of the other statuses (Schwartz et al., 2011). Hence, although the present samples suggest a rather optimistic picture of individuals in the carefree diffusion trajectory, Schwartz et al. (2011, p. 853) concluded, '[. . .] failing to engage in any meaningful identity activity—which defines the carefree diffusion status and differentiates it from troubled diffusion (in which

some exploration, albeit ruminative and nonproductive, is taking place)—may pose serious health hazards that can place the person at risk for serious injury, illness, or death'.

Limitations and suggestions for future research

The present results should be interpreted in light of a number of limitations. First, although self-report data are the best way to assess identity, using self-report data for all outcome measures might have led to inflated correlations among constructs (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Hence, future research might include collateral reports of variables such as depressive symptoms or community integration.

Second, although the longitudinal design of Samples 1 and 2 represents an important strength, the time span under consideration was relatively short. Given that major developmental changes in the variables under study are likely to occur primarily in the long term, longitudinal research is needed to track such changes over extended periods.

Third, although Sample 2 consisted of employed emerging and young adults, most of them had obtained a college or university degree in the past. We therefore do not have data on the 'forgotten half' of young people who do not attend college. Hence, future research should sample employed individuals who entered the workforce immediately after high school. Because such individuals did not experience the psychosocial moratorium characteristic of college (Luyckx, Schwartz, Goossens, & Pollock, 2008), identity trajectories might be different for these individuals.

Fourth, both samples consisted mainly of female participants. Hence, the lack of gender differences observed in status membership should be interpreted with caution. Future studies examining similar research questions should use more balanced samples in terms of participants' gender. Similarly, the present sample was comprised largely of Caucasian European participants. Schwartz et al. (2011) identified some ethnic differences in identity status clusters determined at one point in time, with Asian Americans less likely to be achieved and more likely to be classified into troubled diffusion and African Americans less likely to be classified into carefree diffusion. Hence, future research focusing on identity status trajectories should sample participants from different ethnic backgrounds and should explore possible ethnic differences.

Finally, the results obtained were dependent on the identity dimensions used to derive the trajectory classes and, more specifically, on how these identity dimensions were conceptualized and measured. For instance, with respect to ruminative exploration, this dimension was assessed as a separate dimension, apart from the other four dimensions. However, as also suggested by an anonymous reviewer, the exact nature of this dimension needs to be examined further. One way to proceed could be to assess whether ruminative tendencies, instead of being viewed as a separate dimension (as currently being performed in the identity model used), could function as a moderating variable that qualifies the other identity dimensions. More specifically, the impact of identity dimensions such as exploration in breadth and in depth could be moderated by general ruminative tendencies. For instance, a process of exploration in depth which is coupled with ruminative tendencies

could be more strongly associated with maladjustment over time (cf. Luyckx et al., 2007).

CONCLUSION

The present study has generated important knowledge on short-term developmental changes in personal identity processes and statuses. A fair degree of correspondence in identity status trajectories was obtained between college students and employed emerging and young adults who had previously attended college. Although some differences emerged between Samples 1 and 2, the structure of the status model obtained was replicated across both samples. The differential across-status relationships obtained with important external variables suggest the presence of multiple identity pathways in emerging and young adulthood. Hence, the present findings underscore the importance of conducting research on identity development and important outcomes, not only in the college setting but also in the work context.

SUPPORTING INFORMATION

Supporting information may be found in the online version of this article.

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