



Identity in young adulthood: Links with mental health and risky behavior



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ARTICLE INFO

Article history:

Received 4 April 2014

Received in revised form 28 August 2014

Accepted 4 October 2014

Available online 16 January 2015

Keywords:

Identity

Well-being

Internalizing

Externalizing

Health risks

ABSTRACT

The present study was conducted to contribute to our understanding of young adult identity development by deriving latent profiles from intrapersonal and interpersonal indices of identity synthesis and confusion. A sample of 9737 college-attending young adults completed measures of identity, mental health, and health risk behaviors. Four latent profiles emerged: Synthesized (high synthesis, low confusion), Diffused (moderate synthesis, high confusion), Elevated (high synthesis and confusion), and Moderate (moderate synthesis and confusion). The Synthesized profile was associated with the highest well-being and the lowest levels of internalizing, externalizing, and health risks. The Diffused and Elevated profiles were both associated with low well-being and with high internalizing, externalizing, and risky behaviors – with the Elevated profile highest on all of the negative outcomes. The Moderate profile scored intermediately on well-being, internalizing, externalizing, and health risks. These results are discussed in terms of the role of identity within a successful transition to adulthood.

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The world has become increasingly complex over the past 50 years. Until the mid-20th century, the transition to adulthood was relatively well-structured for most people (Côté & Allahar, 1994). A typical developmental trajectory was marked by attending high school, finding an entry-level job, and starting a family – all within the span of a few years. Since then, the transition to adulthood has changed considerably (e.g., Arnett, 2000; Côté, 2000). First, the workplace shift from industrial to technological economies made many traditional entry-level positions increasingly obsolete through mechanization and outsourcing. Second, a college degree became a prerequisite for employment in many fields of white-collar work, and even in some fields of blue-collar work (Kalleberg, 2009). Perhaps as a result, college attendance in the United States surged by 430% between 1959 and 2010 (National Center on

Education Statistics, 2010), compared to the 72% increase in the population as a whole during that time (U.S. Census Bureau, 2011).

Aside from providing post-secondary education and advanced credentials, the college environment also provides important resources for developing a sense of identity. Young people are exposed to a range of academic courses, social influences, and lifestyle choices (Montgomery & Côté, 2003). These choices involve who one is internally, such as one's goals and values, as well as the ways in which one relates to others (e.g., behaving as the same person across contexts, being able to sustain friendships over time; Côté, 2014; Côté & Levine, 2014). As Erikson (1968) noted, identity manifests itself both as an intrapersonal process of self-definition and as an interplay between the individual and important others (e.g., friends, family members).

Perhaps not coincidentally, as identity has become more and more of a self-directed task, without much external help (MacMillan, 2007), mental health issues – such as depression, anxiety, and risk-taking behavior – have become increasingly prominent on college campuses in recent

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years (e.g., Blanco et al., 2008; Chou et al., 2005). The college years are associated with the highest rates of binge drinking (Substance Abuse Mental Health Services Administration [SAMHSA], 2013), illicit drug use (SAMHSA, 2013), casual or “hookup” sex (Bogle, 2008), and drunk or drugged driving (National Highway Traffic Safety Administration, 2009). At the same time, many students are doing quite well in terms of feeling a sense of mastery over their lives, enjoying positive relationships with others, and having a clear purpose in their lives (Bowman, 2010). Although socialization and genetic factors undoubtedly play a role in determining which students will experience high well-being and which students will experience difficulties or engage in risky behavior, it is possible that identity may also contribute to these outcomes. Indeed, although some increases in internalizing, externalizing, and health risks – along with increases in well-being – may be normative in the late teens and twenties (Galambos, Barker, & Krahn, 2006), it is possible that identity may play a role vis-à-vis individual differences in these adjustment indices. Indeed, the present study was designed to examine the potential role of identity in positive and negative psychosocial outcomes among college-attending emerging adults – in terms of typological profiles extracted from Eriksonian indices of identity development and the psychosocial correlates of these profiles.

Erikson (1950, 1968), in his clinically based writings during the mid-20th century, argued that a synthesized sense of identity is necessary to facilitate “doing well” in life. There is a need for person-centered analyses – which create clusters or groupings of participants based on similar scores on a set of variables – to test Erikson’s propositions regarding the role of identity in psychosocial functioning in young adulthood. Such work has been done with models of identity derived from Erikson’s theory (e.g., identity status; Marcia, 1966), but not with measures tapping directly into Erikson’s concepts. A growing body of empirical studies, primarily conducted using the identity status model, indicates that developing a synthesized sense of identity facilitates well-being (Waterman, 2004, 2007; Waterman et al., 2013) and protects against internalizing symptoms (Crocetti, Klimstra, Keijsers, Hale, & Meeus, 2009; Ritchie et al., 2013), externalizing problems (Crocetti, Klimstra, Hale, Koot, & Meeus, 2013), and health risk behaviors (Schwartz et al., 2011) among college-aged populations. Because Erikson’s concepts of synthesis and confusion tap directly into largely adaptive and largely maladaptive forms of identity, respectively, profiles extracted from measures of synthesis and confusion would provide an important opportunity to validate the patterns of findings obtained with other models of identity. The profiles obtained (and their correlates) would help researchers and practitioners to identify groups of individuals who might be in need of intervention.

Theoretical approaches to personal identity

Erikson (1950) spoke of identity primarily in terms of synthesis and confusion. Synthesis represents a sense of self-knowledge and a feeling that one knows where one is headed, whereas confusion represents feeling “mixed up” and unclear as to what one is doing in life. Specifically, we extracted unobserved (latent) groups of young adults based on Erikson’s (1950) syntonic (generally adaptive) and dystonic (generally maladaptive) poles of identity synthesis and confusion, and we compared these identity groups on indexes of well-being, internalizing symptoms, externalizing problems, and health risk behaviors. Following Erikson’s definitions, identity synthesis represents a set of self-determined ideals, whereas identity confusion represents an inability to derive a self-determined set of ideals (Crocetti, Meeus, Ritchie, Meca, & Schwartz, 2014).

Erikson’s theorizing has provided the foundation for identity research (Côté & Levine, 2014; Schwartz, Luyckx, & Crocetti, in press). Work directly measuring Erikson’s concepts has been fairly uncommon (Schwartz, 2001; Schwartz, Luyckx, & Crocetti, 2014). In the majority of cases, Erikson’s concepts have been studied indirectly through models developed to clarify and operationalize his ideas for empirical research.

To conceptualize identity processes of synthesis and confusion, in the present study we drew directly on Erikson’s (1950, 1968) theory of identity development, as well as upon the identity status model, which has been one of the most popular operationalizations of Erikson’s concepts (see Kroger & Marcia, 2011, for a review).

Within the identity status tradition, young adults are assumed to sort through various potential alternatives (*exploration*) before settling on one or more of these (*commitment*). Exploration and commitment dimensions are each divided into “presence” versus “absence,” and the dimensions are then crossed to create four statuses: achieved (commitments enacted following exploration), moratorium (active exploration without commitments), foreclosure (commitments enacted without prior exploration), and diffusion (lack of commitments or attempts to explore). A large literature provides evidence that young adults in the achieved status appear to be better adjusted and self-directed compared to those in the other statuses (Kroger & Marcia, 2011).

Although identity status is based on Erikson’s work, Erikson’s theory and the identity status approach sometimes, but not always, map neatly onto one another (Côté & Levine, 1987; van Hoof, 1999; Waterman, 1988). The achieved status was proposed to represent Erikson’s notion of identity synthesis and the diffused status was proposed to represent Erikson’s notion of identity confusion. These propositions have been largely supported in the literature (Schwartz et al., 2011). However, moratorium was proposed as a route to achievement, where the person is exploring and preparing to make commitments – but empirical work has suggested that moratorium is closer to diffusion than to achievement (Schwartz, Côté, & Arnett, 2005). The placement of foreclosure within Erikson’s theory is unclear, as it is not clear whether committing without prior exploration represents synthesis, confusion, or something else entirely (Schwartz, 2001). One way to resolve these potential incompatibilities is to extract status-like profiles from Eriksonian-based identity scales and to ascertain the extent to which these profiles map neatly onto measures of identity status.

Identity and psychosocial outcomes

Erikson (1950, 1968) emphasized, identity is important not only in terms of how it unfolds during the transition to adulthood, but also in terms of how it relates to important mental health outcomes. Some of the domains of functioning to which identity has been found to be related include well-being, internalizing symptoms, externalizing problems, and health risk behaviors. *Well-being* is an umbrella term that refers to a set of indicators of positive functioning (Diener, 2006). These indicators include self-esteem (Swann, Chang-Schneider, & Larsen-McClarty, 2007), meaning in life (Steger, Shin, Shim, and Fitch-Martin, 2013), subjective well-being (e.g., life satisfaction; Pavot & Diener, 1993), psychological well-being (competence, mastery, and the ability to meet the demands of daily life; Ryff & Keyes, 1995), and eudaimonic well-being (discovering and actualizing one’s highest potentials; Waterman & Schwartz, 2013). *Internalizing symptoms* refer to anxiety, depression, and other internal states that reflect dysphoria and a negative appraisal of one’s current life situation (Cannon & Weems, 2006). *Externalizing problems* refer to physical aggression, lying, cheating, stealing, and other acts that are harmful to others or to society as a whole (Burt & Donnellan, 2008). *Health risk behaviors* refer to activities that increase the odds of illness, injury, or death – such as illicit drug use, unsafe sexual contact, and driving under the influence of alcohol or drugs. Taken together, these four sets of psychosocial outcomes capture a number of positive and negative domains of functioning that may be related to profiles of identity development.

Compared to adolescence, the young adult years are generally characterized by increases in well-being and decreases in internalizing symptoms (Galambos et al., 2006). However, the young adult years are also characterized by the highest rates of problematic alcohol use (Kanny, Liu, Brewer, & Lu, 2013), illicit drug use (National Institute on Drug Abuse, 2014), casual or unprotected sex (Bogle, 2008), and drunk or drugged driving (Chou et al., 2005). Given the importance of

identity during the young adult years, it is important to empirically clarify the role of identity processes in well-being, internalizing symptoms, externalizing problems, and health risk behaviors. Such knowledge can help us to better understand the developmental patterns and needs of college-aged young adults.

Profiles of identity synthesis and confusion

To the extent to which Erikson-based and identity status theories are complementary, it should be possible to derive status-like profiles from measures of identity synthesis and confusion, and these profiles should evidence patterns of exploration, commitment, and adjustment similar to those found for the identity statuses. From an applied and public health perspective, such findings would mean that promoting adaptive identity processes – such as identity synthesis, proactive exploration, and enactment of commitments – would be an important direction to follow in terms of the development of preventive interventions. As stated earlier, the present study was designed to evaluate the relevance of Erikson's ideas for today's young adults by (a) empirically deriving identity synthesis and confusion profiles and (b) identifying the well-being, internalizing, externalizing, and health risk correlates of the profiles that emerge.

The algorithm through which participants are assigned to status categories has shifted in recent years (see [Crocetti & Meeus, in press](#), for a review). At least in terms of work based on quantitative self-report measures, traditional (pre-2005) identity status research generally used median splits, which impose preexisting theoretical constraints onto the data and are not recommended as a way to derive categories ([MacCallum, Zhang, Preacher, & Rucker, 2002](#)). More recent work has used empirical clustering techniques, which extract groupings based on patterns emerging in the data and are used to build or refine theory ([Collins & Lanza, 2010](#); [Everitt, Landau, Leese, & Stahl, 2011](#)). Empirical clustering techniques include cluster analysis, which places individuals into “hard” (independent) groups ([Steinley & Brusco, 2008](#)), as well as latent profile analysis, which places individuals into “soft” (probabilistic) groups ([DiStefano & Kamphaus, 2006](#)). Most identity status research has used cluster analysis largely because an established set of categories could be hypothesized. In the present study, however, we used latent profile analysis to create soft classes (profiles) because we did not have an a priori basis on which to hypothesize specific profiles that would emerge from the data.

Drawing on the demarcation between intrapersonal (private) and interpersonal (relational/public) forms of identity within the identity status literature ([Kroger & Marcia, 2011](#)), it is possible that identity synthesis and confusion also operate within intrapersonal and interpersonal content areas. For example, a person's subjective sense of self-continuity is largely private, but that person's behavior toward others is public. Erikson (1950) himself specified “ideology” and “relationships” as separate domains in which identity is developed – so in the present study, we used a measure that assesses identity synthesis and confusion within both intrapersonal and interpersonal domains.

The treatment of identity synthesis and confusion as separate dimensions warrants discussion. It is possible to interpret Erikson's dimension of “synthesis versus confusion” as suggesting that identity synthesis and confusion are polar opposites and cannot coexist. However, [Erikson \(1968\)](#) was careful to note that each of his stages was characterized by syntonic and dystonic poles. Favorable outcomes, Erikson argued, would be characterized as a *preponderance* of the syntonic pole (e.g., synthesis) vis-à-vis the dystonic pole (e.g., confusion). Erikson was clearly displeased with one-sided measurement approaches, stressing that he was “somewhat shocked by the frequency with which not only the term identity, but also the other syntonic psychosocial qualities ascribed by me to various stages, were widely accepted as conscious developmental ‘achievements’, while certain dystonic states (such as identity confusion) were to be totally ‘overcome’ like symptoms of failure” (1979, p. 24).

We take these admonitions to mean that the term “preponderance” suggests that both synthesis and confusion can exist within the same person, and that what is important is that the individual's sense of synthesis is not overwhelmed by her/his sense of confusion. Indeed, it is entirely possible for a young person to be sure of what career s/he wants to choose, but to nonetheless be overwhelmed and confused by the complexities involved in actualizing that choice. The findings reported by [Schwartz et al. \(2011\)](#), where troubled diffusion was associated with more synthesis – but also more confusion – compared to carefree diffusion, provide an example of how synthesis and confusion can coexist. Indeed, it is possible that someone who is relatively high on both synthesis and confusion may evidence different degrees of problematic outcomes compared to someone who is high on confusion but low on synthesis. That is, someone who is confused – but is not bothered by that confusion – is likely different from someone who is reporting both “doing well” and “doing poorly” in terms of identity work. The present study provided an opportunity to ascertain whether such a high synthesis/high confusion profile would emerge, and if so, how such individuals would describe themselves in terms of adjustment.

The present study

As stated above, in the present study our goal was to empirically extract (using latent profile analysis) profiles of identity development using Eriksonian measures of synthesis and confusion in both subjective (intrapersonal) and behavioral (interpersonal) domains – and to compare the profiles that we extracted on indices of well-being, internalizing symptoms, externalizing problems, and health risk behaviors. We used a college sample because many of today's American young people spend at least some time in college (National Center for Education Statistics, 2010), and because the university experience serves as a “laboratory” for identity development, traditionally providing a moratorium period for working out identity issues ([Montgomery & Côté, 2003](#)). College students differ markedly in terms of likelihood of finishing their degree as well as their chances of future career success ([Côté & Levine, 2000](#)). Consequently, we anticipated a great deal of variability in terms of syntonic and dystonic identity functioning.

In light of prior cluster-analytic identity research (e.g., [Crocetti, Rubini, Luyckx, & Meeus, 2008](#); [Luyckx, Goossens, Soenens, Beyers, & Vansteenkiste, 2005](#)), we hypothesized that 5–6 profiles would emerge. At least one of these profiles would resemble the achieved status (high syntonic, low dystonic), and at least one profile would resemble Marcia's original version of the diffused status (low syntonic, high dystonic). Because we did not know precisely how much the syntonic and dystonic dimensions would overlap with one another, we did not hypothesize the precise content of the other profiles that might emerge. In terms of associations between identity profiles and outcome variables, we hypothesized that profiles resembling the achieved status (high syntonic, low dystonic) would be associated with the highest levels of well-being and with the lowest levels of internalizing symptoms, externalizing problems, and health risk behaviors. We hypothesized that the reverse would be true of profiles resembling the diffused status (low syntonic, high dystonic).

Method

Participants

The sample for the present study consisted of 9737 students ($M_{\text{age}} = 19.96$ years, $SD = 1.97$ years, range 18–29; 73% female; 62% White, 15% Hispanic, 13% Asian, 9% Black, and 1% Middle Eastern) attending 30 colleges and universities in 20 U.S. states. The majority of participants (88%), their mothers (69%), and their fathers (69%) were born in the United States. Most students resided on campus (34%) or in off-campus houses or apartments (43%), with smaller percentages

residing at home with family members (16%) in fraternity or sorority housing (2%), or in other living arrangements (5%).

The present study was conducted as part of the Multi-site University Study of Identity and Culture (MUSIC; Castillo & Schwartz, 2013; Weisskirch et al., 2013). Sites were selected so as to provide a geographic representation of the United States. Six of the data collection sites were located in the Northeast, seven in the Southeast, seven in the Midwest, three in the Southwest, and seven in the West. Seventeen of the sites were large state universities, six were smaller state universities, four were major private universities, and three were private colleges. At all sites, the study was approved by the site's Institutional Review Board.

Procedures

Data were collected between September 2008 and October 2009. At each participating college or university, students were recruited through printed or emailed announcements. Classes were surveyed in the disciplines of psychology, sociology, business, family studies, education, and human nutrition. In psychology departments, participation in the study satisfied a research requirement; whereas in other departments, students received course credit or were entered into a prize raffle. Students were directed to the study website and asked to read a consent document and confirm that they wanted to participate in the study. Participating students then chose their college or university from a drop-down list and entered their student ID numbers, which were used only for crediting purposes and were not attached to the data file. The full survey was divided into six separate web pages. The average completion time for the entire survey ranged between 60 and 90 min. Of the participants who logged on to the study website, 85% completed all six survey pages. A series of chi-squares and multivariate analyses of variance indicated only two significant and meaningful (effect size $\geq .03$) differences between those who completed all six survey pages versus those who did not. Specifically, Whites and Asians were more likely, and Blacks and Hispanics less likely, to complete all six pages, $\chi^2(5) = 103.18, p < .001$, Cramér's $V = .10$; and individuals completing all survey pages were less likely to have smoked marijuana in the month prior to assessment compared to those who did not complete all survey pages, 20% versus 23%; $\chi^2(1) = 6.04, p < .05, \phi = .03$.

Measures

Syntonic and dystonic identity resolution

The subjective syntonic, subjective dystonic, behavioral syntonic, and behavioral dystonic subscales from the Identity Issues Inventory (Roberts & Côté, in press) were used to assess positive and negative dimensions of identity resolution in intrapersonal (one's subjective thoughts about oneself) and interpersonal (one's behavior toward others) areas. Each subscale consisted of five items responded to from 1 (*strongly disagree*) to 5 (*strongly agree*). Alpha coefficients and sample items were: subjective syntonic ($\alpha = .83$), "I feel like I am basically the same person regardless of the situation I am in"; subjective dystonic ($\alpha = .89$), "I often feel confused about who I am deep inside"; behavioral syntonic ($\alpha = .73$), "My friends think I behave maturely" and behavioral dystonic ($\alpha = .73$), "I find it difficult to keep the same friends for any period of time". The Identity Issues Inventory is one of the only identity measures that assess both intrapersonal and interpersonal identity dimensions from an Eriksonian perspective.

It is important to note that the Identity Issues Inventory assesses two of Erikson's (1950) components of identity: temporal/spatial continuity (e.g., being the "same person" across place and time) and person-context interplay (e.g., ways in which one's identity is expressed to, and shaped by, relationships with others). The subjective subscales tap into temporal-spatial, whereas the behavioral subscales tap into the person-context interplay.

We also validated the identity resolution profiles in relation to a set of comparison identity variables, as well as a series of variables related to positive psychological functioning, internalizing symptoms, externalizing problems, and health risk behaviors.

Comparison identity measures

Two other identity constructs were included to validate the identity resolution profile solution. These were Eriksonian identity synthesis and confusion (Erikson, 1968) and identity exploration and commitment (Kroger & Marcia, 2011; Luyckx, Schwartz, Goossens, Soenens, & Beyers, 2008). General (non-domain-specific) identity synthesis and confusion were measured using the Erikson Psychosocial Stage Inventory (Rosenthal, Gurney, & Moore, 1981). This 12-item measure was originally designed to yield a single score for identity, but in-depth psychometric analyses suggest a two-factor structure with separate 6-item subscales for identity synthesis and identity confusion (Schwartz, Zamboanga, Wang, & Olthuis, 2009). The identity synthesis subscale ($\alpha = .82$) consists of items such as "I know what kind of person I am", and the identity confusion subscale ($\alpha = .79$) consists of items such as "I feel mixed up".

Identity exploration and commitment were measured using the Dimensions of Identity Development Scale (Luyckx et al., 2008). This scale indexes three forms of exploration (in breadth, in depth, and ruminative) and two forms of commitment (commitment making and identification with commitment), each using a five-item response scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Exploration in breadth ($\alpha = .84$) refers to sorting through multiple alternatives (sample item: "I think a lot about the direction I want to take in my life"). Exploration in depth ($\alpha = .81$) refers to thinking about commitments that one has already enacted (sample item: "I think a lot about the future plans I have made"); and ruminative exploration ($\alpha = .85$) refers to doubting oneself and thinking obsessively about choices that one must make (sample item: "I keep wondering which direction my life has to take"). Commitment making ($\alpha = .92$) refers to the act of aligning oneself with specific set of goals, values, and beliefs (sample item: "I know what I want to do with my future"); and identification with commitment ($\alpha = .93$) refers to internalizing these goals, values, and beliefs within one's core sense of self (sample item: "My future plans give me self-confidence"). Essentially, exploration in breadth and commitment making fall within the process of identity formation; exploration in depth and identification with commitment fall within the process of identity evaluation; and ruminative exploration represents a maladaptive process that can interfere with identity formation and evaluation (Luyckx, Schwartz, Goossens, Beyers, & Missotten, 2011).

Well-being

We indexed well-being in terms of self-esteem, meaning in life, and three types of well-being: subjective well-being (life satisfaction), psychological well-being (which includes competence and mastery), and eudaimonic well-being (self-realization and self-discovery), each using a five-item response scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). We measured *self-esteem* using the 10-item Rosenberg Self-esteem Scale ($\alpha = .88$; Rosenberg, 1965). A sample item is "I have a number of good qualities." We assessed *internal locus of control* using Côté's (1997) five-item adaptation of the Rotter (1969) Locus of Control Scale ($\alpha = .63$), with a five-point response scale used in place of the traditional forced-choice format. A sample item is "What happens to me is my own doing." We assessed *meaning in life* using the Presence of Meaning subscale ($\alpha = .87$) from the Meaning in Life Scale (Steger, Frazier, Oishi, & Kahler, 2006). Sample items include "I understand my life's meaning." We measured *life satisfaction* using the five-item Satisfaction with Life Scale ($\alpha = .87$; Pavot & Diener, 1993). A sample item is "If I could live my life over again, I would change almost nothing." We measured *psychological well-being* using the shortened 18-item version of the Scales for Psychological Well-being (Ryff & Keyes, 1995). The total score was used ($\alpha = .81$). Sample items include "I have confidence in my opinions, even if they are contrary to the general

consensus.” We measured *eudaimonic well-being* using the newly developed Questionnaire for Eudaimonic Well-being (Waterman et al., 2010). This measure consists of 21 items assessing the extent to which one is oriented toward discovering one’s life purpose, living according to one’s innermost talents and potentials, and willing to take on challenging tasks that facilitate personal growth. Five items within this measure refer to identity-related issues, and these were removed for the present analyses to avoid spurious overlap with the identity profiles. The resulting 16-item version provided acceptable internal consistency ($\alpha = .83$). A sample item is “I feel best when I’m doing something worth investing a great deal of effort in.”

Internalizing symptoms

We assessed internalizing symptoms in terms of depressive symptoms, general anxiety, and social anxiety, each using a five-item response scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). *Depressive symptoms* were measured using the Centers for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). This scale consists of 20 items ($\alpha = .86$) assessing symptoms of depression occurring during the past week. A sample item reads “This week, I felt like crying.” We assessed symptoms of *general anxiety* during the week prior to assessment using an adapted version of the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988). This adapted version consists of 18 items ($\alpha = .95$), such as “I have been worrying a lot this week.” We assessed *social anxiety* symptoms, such as being hesitant to talk to an attractive person of the opposite sex, using the Social Interaction Anxiety Scale (SIAS; Habke, Hewitt, Norton, & Asmundson, 1997). This measure consists of 19 items ($\alpha = .94$), including “When mixing socially, I am uncomfortable.”

Externalizing problems

We assessed externalizing problems in terms of *rule breaking*, *social aggression*, and *physical aggression*. These variables were measured using items from the Adult Self-report (Achenbach & Rescorla, 2001), as selected and modified by Burt and Donnellan (2008). These items asked how often (1 = *never*; 5 = *nearly all the time*) participants had engaged in a number of behaviors during the six months prior to assessment. The rule-breaking subscale includes 11 items ($\alpha = .95$), including “Broke into a store, mall, or warehouse.” The social aggression subscale consists of 11 items ($\alpha = .85$), including “Made negative comments about someone else’s appearance.” The physical aggression subscale consists of 10 items ($\alpha = .85$), including “Got into physical fights.”

Health risk behaviors

We assessed health risk behaviors in terms of hazardous alcohol use, illicit drug use, unsafe sexual behavior, and impaired driving. We assessed hazardous alcohol use with the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Puente, & Grant, 1993) to assess respondents’ level of hazardous alcohol use. Three AUDIT items assess alcohol use quantity and frequency (e.g., “How many drinks containing alcohol do you have on a typical day when you are drinking?”), three items assess frequency of alcohol-dependent behaviors (e.g., “How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?”), and four items assess problems caused by alcohol (e.g., “Have you or someone else been injured as a result of your drinking?”). AUDIT scores are derived by summing participants’ responses across the 10 AUDIT items. In the present study, the Cronbach’s alpha coefficient for total scores on the AUDIT was .79.

The remaining health risk behaviors were measured as frequency of engagement during the 30 days prior to assessment using the following scale: 0 (*never*), 1 (*once/twice*), 2 (*3–5 times*), 3 (*6–10 times*), and 4 (*more than 10 times*). Substance use behaviors that we assessed included marijuana use, hard drug use, inhalant use, injecting drug use, and prescription drug misuse. Potentially risky sexual behaviors assessed included oral sex, anal sex, unprotected sex, casual sex (sex

with someone whom the participant had known for less than a week), and sex while drunk or high. Impaired driving behaviors assessed included driving while drunk or high and riding with a driver who was drunk or high.

Results

Latent profile analysis

We used latent profile analysis with the subjective syntonic, subjective dystonic, behavioral syntonic, and behavioral dystonic subscales from the Identity Issues Inventory as clustering variables. The other identity measures were used to validate the profile solution. We did this so that we could create a set of profiles based on the intrapersonal and interpersonal identity synthesis and confusion measures, and then use scales measuring similar identity constructs to validate the profiles.

Latent profile analysis involves comparing a set of potential profile solutions and identifying the solution that provides the best and most parsimonious fit to the data. Nylund, Asparouhov, and Muthén (2007) have offered a series of guidelines for choosing among possible profile solutions. The Vuong–Lo–Mendell–Rubin likelihood ratio test (*LRT*) provides a *p*-value indicating whether or not a solution with *k* profiles offers significantly more explanatory power compared to a solution with *k* – 1 profiles. For the profile solution selected, the entropy value (*E*) and the post-hoc classification accuracy values for each of the profiles indicate the reliability of the solution as a whole. Values of .70 or above for *E* and for each of the post-hoc classification accuracy values provide maximum confidence in the profile solution – though values slightly below .70 should not necessarily be dismissed as unacceptable. Additionally, extremely small profiles (e.g., less than 5% of the sample) may suggest that a solution is unstable, and profiles that do not differ significantly from other profiles on the clustering variables may suggest a poorly differentiated profile solution.

We tested solutions with two, three, four, five, and six profiles. Results of the latent profile analysis supported a four-profile solution, $LRT = 1327.04$, $p < .001$; $E = .75$; posterior classification accuracies ranged from .82 to .91. The five-profile solution provided a significantly better fit than the four profile solution, $LRT = 1506.29$, $p < .001$, but one of the profiles consisted of only 58 cases (0.6% of the sample). When we crosstabulated the four and five profile solutions, 97.3% of participants were in the same profile within both solutions. The remaining 2.7% of cases were either mismatched across the four and five profile solutions or were placed into the small fifth profile. The six-profile solution provided superior fit compared to the five-profile solution, $LRT = 603.70$, $p < .01$. However, three of the six profiles each represented less than 5% of the sample. The four-profile solution therefore allowed us to balance statistical significance with the stability of the profiles extracted. Table 1 reports the fit indices for each of the profile solutions that we examined.

The four profiles were labeled as Diffused ($n = 2742$), Synthesized ($n = 2024$), Elevated ($n = 426$), and Moderate ($n = 4759$) (see Table 2 and Fig. 1). We then placed participants into their most likely

Table 1
Fit indices for profile solutions.

Solution	AIC	BIC	Entropy	<i>LRT</i> ^a	Number of classes <5% of sample
2-class	188,044.81	188,136.87	.74	6939.85 ($p < .0001$)	0
3-class	185,078.07	185,205.54	.84	2912.59 ($p < .0001$)	1
4-class	183,760.41	183,923.28	.75	1299.06 ($p < .0001$)	1
5-class	182,435.49	182,633.77	.80	1480.36 ($p < .0001$)	1
6-class	181,828.49	182,062.18	.80	603.70 ($p < .01$)	3

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; *LRT* = Vuong–Lo–Mendell–Rubin likelihood ratio test.

^a Compared to a solution with one fewer class.

Table 2
Syntonic and dystonic identity indices by profile.

Variable	Overall sample ^a	Diffused	Synthesized	Elevated	Moderate	F ratio (η^2)
Subjective syntonic	18.02 (3.85)	14.59 _a (3.00)	21.81 _b (2.33)	21.51 _b (2.48)	18.08 _c (2.54)	3110.33 ^{***} (.52)
Subjective dystonic	12.45 (4.82)	16.29 _a (3.28)	7.11 _b (2.10)	21.07 _c (3.08)	11.53 _d (2.87)	5323.32 ^{***} (.65)
Behavioral syntonic	19.47 (3.49)	16.48 _a (2.69)	22.49 _b (1.98)	21.59 _c (2.37)	19.86 _d (2.17)	2760.62 ^{***} (.49)
Behavioral dystonic	11.90 (3.91)	14.68 _a (2.52)	8.91 _b (2.10)	20.23 _c (3.24)	11.11 _d (2.30)	4931.16 ^{***} (.63)

Note. Means that do not share a subscript in common differ by at least $p < .001$.

^a Provided as a comparison for the class values.

*** $p < .001$.

classes for further analysis. To ensure that the clustering variables were sufficiently differentiated among the latent profiles, we conducted a multivariate analysis of variance (MANOVA) to obtain overall effect sizes, and a structural equation model – with profile membership predicting each of the clustering variables – to estimate pairwise differences while controlling for nesting of participants within universities (using the sandwich covariance estimator; Kauermann & Carroll, 2001). Effect sizes for these analyses tell us how much of variability in each variable was accounted for by the profile solution, where the solution should account for at least 40–50% of the variance in each clustering variable (Gore, 2000).

As displayed in Table 2, the profile solution explained between 49% and 65% of variability in the clustering variables – providing increased confidence in the solution. The Diffused profile scored moderately on both the syntonic and dystonic variables; the Synthesized profile scored high on both syntonic variables and low on both dystonic variables; the Elevated profile scored high on both the syntonic and dystonic variables; and the Moderate profile scored moderately on the syntonic variables and low on the dystonic variables.

Demographic variables by profile

To characterize the profiles within our diverse sample, we next examined profile differences in age, gender, ethnicity, and participants' and parents' birthplace (U.S. or foreign).

Age

Participant age differed significantly across profiles, but the effect size for this difference was extremely small, $F(3, 9947) = 413.61$,

$p < .001$, $\eta^2 = .01$. On average, Synthesized participants were slightly older (M age 20.97) compared to those in the Diffused (M age 19.95) or Elevated (M age 20.31) profiles (see Table 3).

Gender

Analyses of gender differences indicated that the proportion of men varied significantly across profiles, $\chi^2(3) = 147.55$, $p < .001$, Cramér's $V = .12$. With 27% of the overall sample comprised of men, men comprised 43% of Elevated participants, 33% of Diffused participants, 22% of Synthesized participants, and 24% of Moderate participants.

Ethnicity

Ethnic group membership varied significantly by profile, $\chi^2(15) = 311.53$, $p < .001$, Cramér's $V = .10$. Whites were disproportionately represented in the Synthesized profile (which was 69% White); Blacks were disproportionately represented in the Elevated profile (which was 14% Black); and East Asians were disproportionately represented in the Diffused profile (which was 17% East Asian). The representation of Hispanics, South Asians, and Middle Easterners did not differ significantly across profiles.

Nativity

Profiles differed significantly in the proportion of participants who were born in the United States, $\chi^2(3) = 33.88$, $p < .001$, Cramér's $V = .06$; whose mothers were born in the United States, $\chi^2(3) = 142.59$, $p < .001$, Cramér's $V = .12$; and whose fathers were born in the United States, $\chi^2(3) = 113.18$, $p < .001$, Cramér's $V = .11$. Specifically, participants in the Synthesized profile were most likely to have been born in the United States (90% of Synthesized

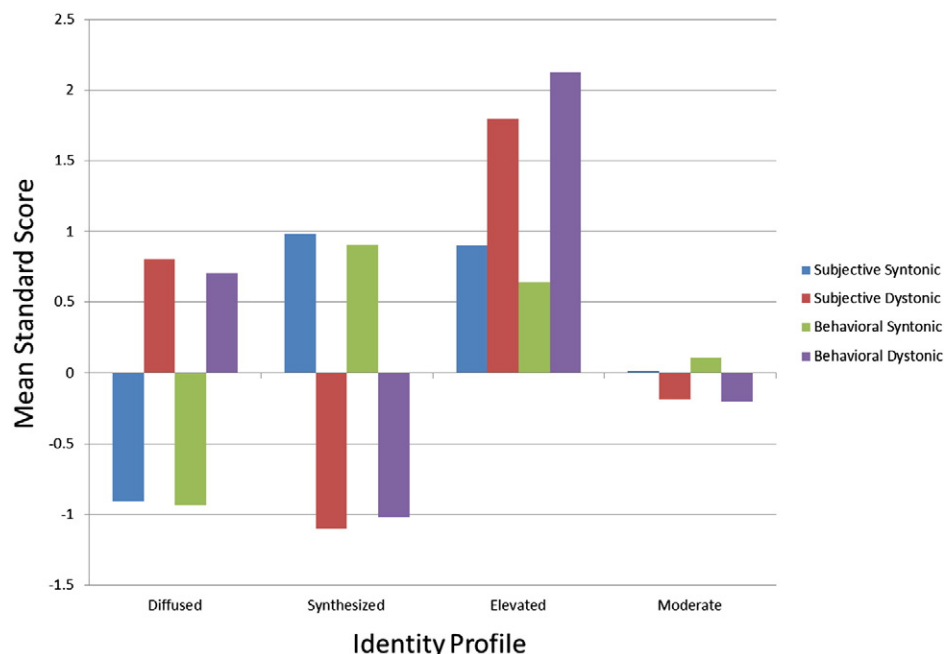


Fig. 1. Profile solution.

Table 3
Demographic differences by profile.

Variable	Diffused	Synthesized	Elevated	Moderate	F/χ^2
Age (continuous)	19.95 (2.45)	20.97 (4.64)	20.08 (2.78)	20.31 (3.18)	36.94*** ($\eta^2 = .01$)
Age (categorical)					80.74*** ($V = .06$)
Early (18–20)	70.8%	61.6%	68.5%	67.1%	
Middle (21–24)	25.1%	29.3%	28.2%	27.4%	
Late (25–29)	4.0%	9.1%	3.3%	5.5%	
Gender (Male)	33.0%	22.1%	43.3%	24.3%	147.55*** ($V = .12$)
Ethnicity					311.53*** ($V = .10$)
White	54.8%	69.0%	54.5%	63.1%	
Black	8.3%	8.7%	13.6%	9.1%	
Hispanic	13.6%	15.4%	17.1%	15.6%	
East Asian	16.5%	4.4%	9.6%	8.4%	
South Asian	4.9%	1.6%	3.1%	2.7%	
Middle Eastern	1.8%	1.0%	2.1%	1.1%	
Participant US-born	85.3%	90.3%	84.2%	88.4%	33.88*** ($V = .06$)
Mother US-born	61.3%	76.8%	63.5%	70.4%	142.59*** ($V = .12$)
Father US-born	62.6%	76.2%	63.0%	70.5%	113.18*** ($V = .11$)

*** $p < .001$.

participants) and to have U.S.-born mothers (77% of Synthesized participants) and fathers (76% of Synthesized participants). Participants in the Diffused and Elevated profiles were least likely to have been born in the United States (85% and 84%, respectively), to have U.S.-born mothers (61% and 64%, respectively), and to have U.S.-born fathers (63% and 63%, respectively).

Convergent validity: Comparison identity variables by profile

Next we examined comparison identity variables in terms of how well they would be differentiated across profiles. We used two sets of identity variables for this purpose: general identity synthesis and confusion (Erikson, 1968), and identity exploration and commitment processes (Luyckx, Goossens, Soenens, & Beyers, 2006; Marcia, 1966). We used a two-step approach to conduct these analyses. First, we conducted multivariate analyses of variance (MANOVAs), and examined univariate effects in the cases where the multivariate effect was statistically significant. These analyses of variance were conducted to obtain an effect size estimate (η^2) – which would tell us how much variance in each comparison identity variable was explained by differences across profiles. Second, we examined pairwise differences by estimating a series of path models where dummy-coded variables for three of the four profiles were allowed to predict each of the outcomes for which a significant univariate effect emerged on the first step. Within each of these path models, the fourth profile (the one not included as a predictor) served as the reference category to which the other profiles were compared on each of the outcome variables. As part of these pairwise analyses, we controlled for nesting of participants within universities using the sandwich covariance estimator (Kauermann & Carroll, 2001). Within both the MANOVA and path analysis steps, we entered gender and mother's nativity (U.S. or foreign) as covariates, given the strong profile differences in these variables. In all of these analyses, given the sample size and the number of tests conducted, only findings significant at $p < .001$ are reported and interpreted.

For identity synthesis and confusion, a significant multivariate effect emerged, Wilks' $\lambda = .44$, $F(6, 17,290) = 1477.16$, $p < .001$, $\eta^2 = .34$. Significant univariate effects emerged for both identity synthesis, $F(3, 8446) = 1840.17$, $p < .001$, $\eta^2 = .39$; and identity confusion, $F(3,$

8646) = 1921.68, $p < .001$, $\eta^2 = .40$ (see Table 4). Identity synthesis was highest in the Synthesized group and lowest in the Diffused group. Identity confusion was highest in the Elevated group and lowest in the Synthesized group.

In terms of identity exploration and commitment processes, a MANOVA produced a significant multivariate effect, Wilks' $\lambda = .68$, $F(15, 23,733) = 234.99$, $p < .001$, $\eta^2 = .12$ (see Table 5). Although all univariate effects were significant at $p < .001$, these effects were strongest for the two commitment processes ($\eta^2 = .18$ for commitment making and $\eta^2 = .19$ for identification with commitment) and for ruminative exploration ($\eta^2 = .15$). Univariate effects for exploration in breadth ($\eta^2 = .05$) and in depth ($\eta^2 = .06$) were weaker. On the commitment processes, the Synthesized profile scored highest and the Diffused profile scored lowest. On exploration in breadth, the Synthesized and Elevated profiles scored highest, and the Diffused profile scored lowest. On exploration in depth, the Elevated profile scored highest, and the Diffused profile scored lowest. On ruminative exploration, the Elevated profile scored highest, and the Synthesized profile scored lowest. These patterns of findings with the comparison identity variables are largely consistent with what would be expected.

Well-being variables by profile membership

We used the same two-step analytic plan and control variables for the well-being variables. A MANOVA on the well-being variables produced a significant multivariate effect, Wilks' $\lambda = .49$, $F(15, 17,157) = 337.47$, $p < .001$, $\eta^2 = .21$ (see Table 6 and Fig. 2). All univariate effects were significant at $p < .001$, and effect sizes (η^2) ranged from .20 (subjective well-being) to .38 (self-esteem). The Synthesized profile scored highest on all of the well-being indices. The Diffused and Elevated profiles scored lowest on self-esteem; the Diffused profile lowest on meaning in life, subjective well-being, and eudaimonic well-being; and the Elevated profile lowest on psychological well-being. The Moderate profile scored intermediately on all of the well-being variables.

Internalizing and externalizing symptoms by profile membership

We used the same two-step analytic plan and control variables for the internalizing and externalizing variables. A MANOVA on the internalizing and externalizing symptom variables produced a significant

Table 4
General identity synthesis and cohesion by profile.

Variable	Diffused	Synthesized	Elevated	Moderate	F-Ratio (η^2)
Identity synthesis	20.21 _a (3.29)	27.26 _b (3.26)	25.19 _c (3.26)	24.23 _d (3.25)	1840.17*** (.39)
Identity confusion	19.15 _a (3.85)	11.66 _b (3.84)	23.14 _c (3.83)	15.32 _d (3.85)	1921.68*** (.40)

Note. Means that do not share a subscript in common differ by at least $p < .001$.*** $p < .001$.

Table 5
Identity processes by profile.

Variable	Diffused	Synthesized	Elevated	Moderate	f-ratio (η^2)
Commitment making	3.24 _a (0.82)	4.26 _b (0.80)	4.01 _c (0.82)	3.81 _d (0.84)	623.25 ^{***} (.18)
Identification with commitment	3.21 _a (0.82)	4.28 _b (0.80)	4.08 _c (0.82)	3.80 _d (0.84)	687.00 ^{***} (.19)
Exploration in breadth	3.59 _a (0.77)	4.01 _b (0.76)	4.13 _b (0.75)	3.90 _c (0.72)	154.42 ^{***} (.05)
Exploration in depth	3.41 _a (0.72)	3.82 _b (0.71)	4.15 _c (0.73)	3.67 _d (0.72)	197.45 ^{***} (.06)
Ruminative exploration	3.30 _a (0.92)	2.48 _b (0.89)	4.01 _c (0.90)	2.94 _d (0.90)	489.13 ^{***} (.15)

Note. Means that do not share a subscript in common differ by at least $p < .001$.

*** $p < .001$.

multivariate effect, Wilks' $\lambda = .66$, $F(18, 22,345) = 194.03$, $p < .001$, $\eta^2 = .13$ (see Table 7 and Fig. 3). All univariate effects were significant at $p < .001$, and effect sizes ranged from .09 (social aggression) to .20 (social anxiety). The Elevated profile was highest, and the Synthesized profile was lowest, on all of the internalizing and externalizing indicators.

Health risk behaviors by profile membership

Hazardous alcohol use was analyzed as a continuous variable, in the same way that the well-being, internalizing, and externalizing indicators were analyzed. Similar to the Monitoring the Future study (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2014), we dichotomized the remaining health risk behavior variables so that we could ascertain the percentage of participants in each profile who were engaging in each risk behavior. Dichotomization allows for the presentation of rates of engagement across profiles and for pairwise differences in each behavior between and among profiles (Schwartz et al., 2011). Note also that we kept the behaviors separate, rather than combining them into groups or subscales, because the behaviors were characterized by different rates of engagement and because each behavior carries a different degree and type of health risk. As in the other comparisons across profiles, an omnibus test (in this case a 4×2 chi-square analysis) was used to obtain an overall effect size, and path models were used to test for pairwise differences. Within the path models, gender and mother's nativity was used as covariates, and the sandwich covariance estimator was used to control for the effects of multilevel nesting.

Significant profile differences emerged for all of the substance use behaviors (including hazardous alcohol use), with the Elevated profile most likely to engage in each behavior and the Synthesized profile least likely to engage in each behavior (the only exception was that hazardous alcohol use was lowest in the Moderate profile). At least 10% of individuals in the Elevated profile engaged in each of the substance use behaviors, including injection drug use (in which less than 1% of Synthesized or Moderate participants reported engagement). Table 8 displays these results.

Significant profile differences emerged for three of the five sexual behaviors (anal sex, casual sex, and sex while drunk or high). For all three of these behaviors, the Elevated profile was most likely to have engaged in these behaviors during the 30 days prior to assessment, and the Synthesized profile was least likely to have done so. More than 30% of Elevated participants reported having had sex with someone they knew for less than a week, and more than 35% reported sex under the influence of alcohol or drugs. Table 8 displays these results.

Table 6
Well-being variables by profile.

Variable	Diffused	Synthesized	Elevated	Moderate	F-ratio (η^2)
Self-esteem	32.82 _a (6.87)	44.44 _b (6.42)	33.11 _a (6.69)	39.28 _c (6.67)	1243.77 ^{***} (.38)
Meaning in life	16.60 _a (5.34)	23.57 _b (4.95)	18.55 _c (5.16)	20.46 _d (5.17)	715.13 ^{***} (.26)
Subjective well-being	17.75 _a (5.85)	24.30 _b (5.44)	19.32 _c (5.69)	21.59 _d (5.65)	510.28 ^{***} (.20)
Psychological well-being	69.86 _a (10.82)	86.44 _b (10.08)	67.56 _c (10.52)	79.95 _c (10.46)	1127.35 ^{***} (.35)
Eudaimonic well-being	51.94 _a (7.75)	64.49 _b (7.23)	51.97 _a (7.55)	58.58 _d (7.51)	1097.13 ^{***} (.35)

Note. Means that do not share a subscript in common differ by at least $p < .001$.

*** $p < .001$.

This same pattern of profile differences emerged for both of the impaired driving behaviors. Indeed, 42% of the participants in the Elevated profile had driven while drunk or high during the month prior to assessment, and 39% had ridden with a driver who was drunk or high. In contrast, the corresponding percentages for the Synthesized profile were both less than 20%. See Table 8.

Discussion

The present study examined latent profiles extracted from measures of syntonic and dystonic identity functioning in subjective and behavioral domains. Erikson (1950, 1968) posited synthesis and confusion as opposing forces within the task of identity development. In doing so, he not only allowed for the possibility that synthesis and confusion might coexist within a single individual, but he also discouraged researchers from only studying the positive, syntonic elements of identity formation. We used latent profile analysis to examine profiles of syntonic and dystonic functioning in terms of demographic characteristics, well-being, internalizing symptoms, externalizing problems, and health risk behaviors across the profiles that were extracted.

Identity profiles

We found four profiles. The Synthesized profile matched our theoretical expectations — high on syntonic processes and low on dystonic processes. This profile also scored highest on the general identity synthesis scale, and lowest on the general identity confusion scale, from the Erikson Psychosocial Stage Inventory. The other three profiles deviated to varying degrees from what Erikson and identity status theory would have expected. The Diffused profile matched what Erikson and Marcia might have predicted in some ways but not others. These individuals scored moderately on both syntonic and dystonic processes, but they scored lowest on the general identity synthesis scale and comparatively high on the general identity confusion scale. The Diffused profile may have been a hybrid between troubled diffusion and classical moratorium — and it is less of a clear match with Erikson's concept of identity confusion than the Synthesized profile is with Erikson's concept of identity synthesis. The Moderate profile scored intermediately among the other profiles in terms of both syntonic and dystonic processes, and in terms of both synthesis and confusion. The Elevated profile scored high on both syntonic and dystonic processes and on scales for both synthesis and confusion. Such a profile may represent people who are sure of themselves in some ways but unsure in others — creating a sense of discomfort that may be responsible, at least in part, for the

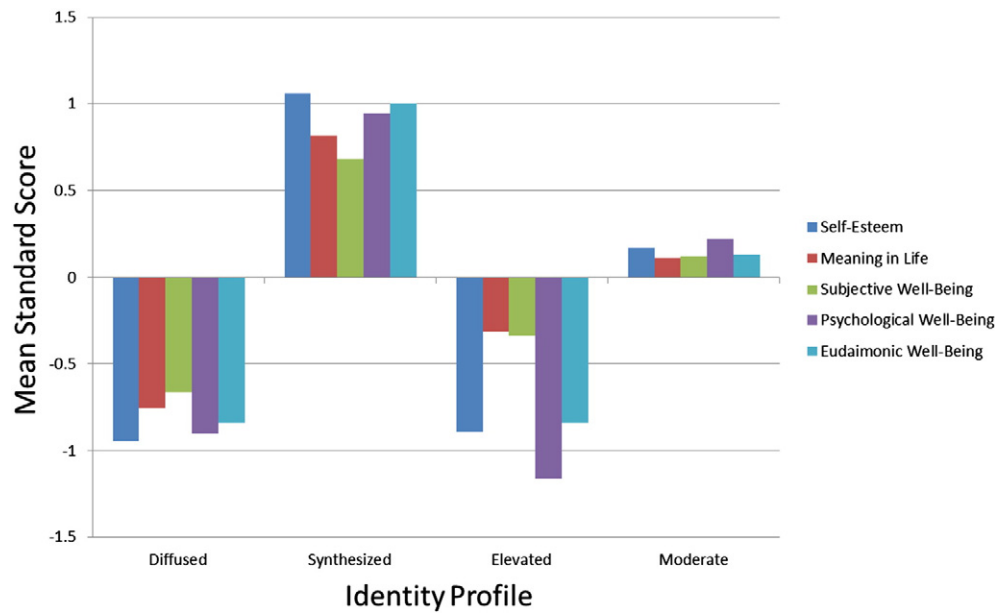


Fig. 2. Well-being by latent class.

heightened levels of internalizing symptoms, externalizing problems, and health risks among the individuals in this profile.

Comparing the profiles on identity processes provides a similar set of conclusions. Synthesized individuals are exploring, are committed, and are not engaged in unproductive rumination about their identity choices. Diffused individuals reported the lowest scores on commitment making, identification with commitment, exploration in breadth, and exploration in depth – but high scores on ruminative exploration. Moderate individuals were intermediate on all five identity processes. Elevated individuals reported profiles that would not be expected given identity status theory: they were high on the commitment making and identification with commitment scales, as well as on exploration in breadth and in depth – but they were also highly likely to ruminate. Given that rumination has been consistently reported to be negatively correlated with the commitment scales on the DIDS (Luyckx et al., 2006), the pattern observed for the Elevated class is highly atypical and appears to reflect an uneasy mix of proactive and maladaptive processes. Elevated individuals may be just beginning the identity development process, may be struggling greatly with it, or may be developing a “negative identity” (i.e., an identity defined as being in opposition to conventional social norms or roles). Additional research is necessary to further clarify the meaning of this profile.

Because the present study is the first time that the Identity Issues Inventory has been used to generate latent profiles, it is important to

examine the extent to which the items on the measure might have been responsible for the profiles that emerged from analysis. Groups resembling the Synthesized, Diffused, and Moderate profiles have been extracted from data using identity status-based measures and in other countries (e.g., Crocetti et al., 2008; Luyckx et al., 2005) – suggesting that these profiles generalize beyond the specific identity measure used in the present study. The Elevated profile, however, has not been reported in prior research. It is not known whether this profile (a) emerged as a result of using an Eriksonian-based measure, rather than an identity status-based measure or (b) emerged as a consequence of the specific items on the Identity Issues Inventory. It would be important to conduct qualitative or mixed-methods research on the Elevated class to identify the specific antecedents and experiences associated with membership in this class – as well as to conduct latent profile analysis with other Eriksonian-based measures to determine whether a “high synthesis, high confusion” profile would emerge. It should be noted, however, that the Elevated profile was associated with a clear set of maladaptive correlates, suggesting that it may be theoretically valid and meaningful.

It is also important to revisit Erikson’s (1950) postulate that identity represents both (a) self-continuity across time and place and (b) an interplay between the person and her/his social context. In all four identity profiles, the subjective (intrapersonal) and behavioral (interpersonal) subscales followed similar patterns. The syntonic indices were both

Table 7
Internalizing and externalizing symptoms by profile.

Variable	Diffused	Synthesized	Elevated	Moderate	F-ratio (η^2)
<i>Internalizing symptoms</i>					
General anxiety	45.21 _a (15.80)	28.81 _b (15.57)	56.73 _c (15.64)	35.14 _d (14.91)	635.25*** (.19)
Social anxiety	56.48 _a (13.95)	39.71 _b (13.79)	62.40 _c (13.83)	48.37 _d (13.16)	665.22*** (.20)
Depressive symptoms	59.04 _a (12.00)	48.07 _b (11.82)	70.24 _c (11.87)	53.03 _d (11.30)	604.92*** (.19)
<i>Externalizing symptoms</i>					
Rule breaking	21.33 _a (7.44)	15.05 _b (7.32)	28.04 _c (7.36)	16.61 _d (7.03)	529.34*** (.17)
Social aggression	27.71 _a (8.46)	22.20 _b (8.34)	32.24 _c (8.38)	24.48 _d (7.99)	263.54*** (.09)
Physical aggression	22.36 _a (7.54)	16.61 _b (7.41)	27.88 _c (7.44)	18.30 _d (7.09)	384.46*** (.13)
Hazardous alcohol use ^a	8.11 _a (6.77)	5.67 _b (6.69)	10.47 _c (6.71)	6.68 _d (6.37)	91.51*** (.03)

Note. Means that do not share a subscript in common differ by at least $p < .001$.

^a Hazardous alcohol use is included here because it was measured as a continuous variable. The remaining health risk behaviors were measured as dichotomous or count variables and are presented in Table 7.

*** $p < .001$.

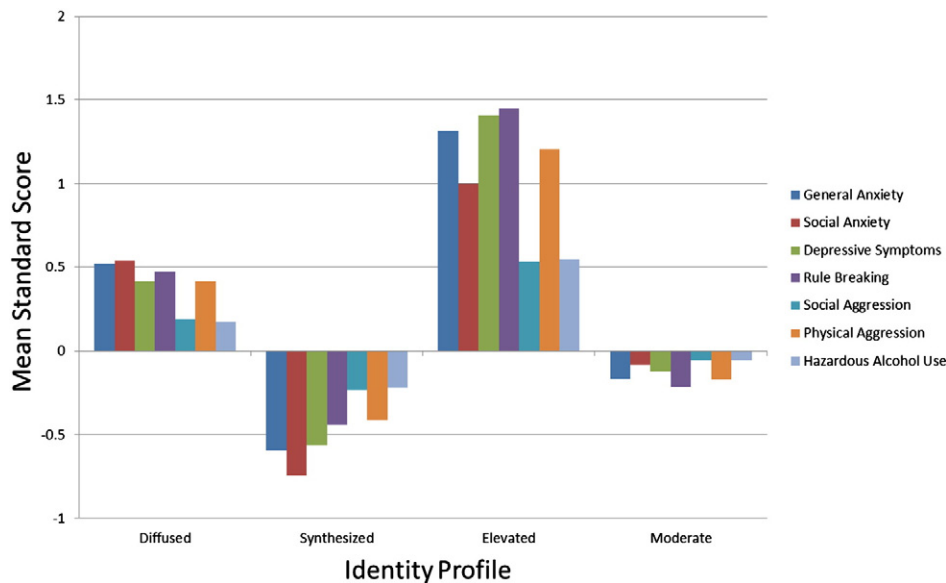


Fig. 3. Internalizing and externalizing symptoms by latent class.

highest in the Synthesized profile and lowest in the Diffused profile, and the dystonic indices were both highest in the Elevated profile and lowest in the Synthesized profile. It appears that young people who perceive themselves as being “the same person” over time and across situations are likely also to behave in a way that nurtures stable social relationships. Our profiles therefore appear to support Erikson’s theorizing regarding identity as both an intrapersonal and interpersonal construct.

Demographic differences in profile membership

It is important to note the demographic differences in profile membership. Although we examined these differences primarily as a way of characterizing the sample rather than as primary hypothesis tests, the demographic differences appear to have important practical implications. The representation of men in the Elevated profile (43%) was nearly double the representation of men in the Synthesized profile (22%), suggesting that male students may have more difficulties with identity issues compared to their female counterparts (recall that men constituted 27% of the sample). The U.S. Department of Education (Snyder & Dillow, 2010) has noted the increasing predominance of women on college campuses, which may be due to a clearer and more coherent sense

of identity among young women than young men. Further research is needed to clarify the link between gender and identity-related outcomes – although a great deal of such research was conducted in the 1980s and 1990s (see Sorell & Montgomery, 2001), American gender roles appear to have changed considerably since then (and are continuing to evolve).

It is also noteworthy that participants from immigrant families comprised 39% of the Diffused profile and 37% of the Elevated profile, but only 23% of the Synthesized profile. Immigration can lead to fragmentation in the self, such that part of the person is immersed in the receiving country but part longs for her/his homeland (Walsh & Shulman, 2007). Indeed, Rudmin (2003) has illustrated the challenges of living within two cultural worlds. For young people from immigrant families, cultural concerns represent an additional domain of identity work (Schwartz et al., 2013; Schwartz, Luyckx, & Crocetti, in press). As such, resolving incompatibilities between one’s heritage culture and the U.S. culture may be challenging and may exacerbate the difficulties involved in forming adult commitments.

Age differences also emerged, with the Synthesized profile one year older (on average) than the Elevated profile. Although extreme caution must be taken when drawing developmental conclusions from cross-

Table 8 Health risk behaviors by profile.

Behavior	Diffused	Synthesized	Elevated	Moderate	$\chi^2 (3), V$
Illicit drug use					
Marijuana use	26.1% _a	13.1% _b	29.8% _a	19.9% _c	122.26 ^{***} , .13
Hard drug use	7.6% _a	1.3% _b	13.6% _c	2.6% _b	204.39 ^{***} , .16
Inhalant use	7.3% _a	1.3% _b	11.7% _c	2.0% _b	196.06 ^{***} , .16
Injecting drug use	5.5% _a	0.6% _b	10.1% _c	0.8% _b	235.95 ^{***} , .17
Prescription drug misuse	10.0% _a	2.4% _b	15.3% _c	4.4% _b	173.70 ^{***} , .15
Unsafe sexual behavior					
Anal sex	11.4% _a	5.8% _b	19.7% _c	6.4% _b	120.89 ^{***} , .13
Casual sex	15.2% _a	4.5% _b	30.7% _c	5.3% _b	413.07 ^{***} , .23
Unprotected sex	32.9%	32.6%	35.7%	33.1%	1.36, .01
Drunken sex	29.1% _{ab}	23.2% _a	36.3% _b	27.2% _a	33.43 ^{***} , .07
Impaired driving					
Driving while drunk/high	27.4% _a	15.3% _b	42.0% _c	19.0% _b	189.95 ^{***} , .16
Riding with impaired driver	34.2% _a	19.6% _b	38.8% _a	24.3% _c	146.79 ^{***} , .14

Note. Percentages that do not share a subscript in common differ by at least $p < .05$.
^{***} $p < .001$.

sectional results, one possible interpretation is that young people may continue to develop and consolidate their identities as they move through the transition to adulthood. Luyckx et al. (2008), in their longitudinal Belgian study, found that commitment making (as an index of successful identity development) increases among some college students, but not among others. It is especially important to ascertain the extent to which the aggression and risk taking that accompany a poorly developed sense of identity might decrease with continued identity work. For example, Diffused participants might develop more commitments, and Elevated individuals might begin to resolve the perceived incompatibilities between their different self-aspects, as they proceed through the transition to adulthood. More longitudinal work is necessary to determine the extent to which identity profiles might change over time.

Links of profiles with psychosocial and health outcomes

The well-being variables followed a pattern that would be expected given the theoretically descriptive labels that we assigned to the profiles. The Synthesized profile was highest on all of the well-being indicators, and the Diffused profile was lowest. The Elevated profile was significantly higher than the Diffused profile on all of the well-being outcomes except for self-esteem and psychological well-being, and the Moderate profile was significantly lower than the Synthesized profile on all of the well-being variables. These results support the general contention that individuals with greater degrees of identity synthesis, and lower degrees of identity confusion, tend to report higher well-being (see Luyckx, Schwartz, et al., 2008, for similar results). The higher degrees of synthesis reported by the Elevated class appear to challenge this argument, as these individuals appear to derive few, if any, benefits from the syntonic functioning that they report, indicating instead a variety of strongly problematic behaviors. The mixture of synthesis and confusion that they report appears to be especially disequilibrating. This pattern might suggest that identity processes are interacting with other domains of functioning for some or all of the individuals in the Elevated class. It is entirely possible that chronic stress and a genetic propensity toward risk taking, for example, may explain some of the negative functioning among Elevated individuals (e.g., Shonkoff et al., 2012).

The pattern of class differences was identical for each of the internalizing and externalizing variables — specifically, from lowest to highest on each were the Synthesized, Moderate, Diffused, and Elevated profiles. The Elevated profile reported the greatest symptoms of general anxiety, social anxiety, depression, rule breaking, and aggression, in some instances at extreme levels. These findings suggest that, despite their reports of a mixture of synthesis and confusion, they appear to be struggling with respect to effective behavioral self-regulation. Again, difficulties with identity may interact with — or add to — difficulties in other life domains. Similar conclusions can be drawn for the high rates of hazardous drinking, for the more dangerous drug use and sexual behaviors¹ and for driving under the influence of alcohol or drugs reported by the Elevated profile. Perhaps in conjunction with other stressors and risk factors, individuals who experience difficulty integrating their sense of self, particularly in Western societies where such integration is a prerequisite for healthy functioning (Cross, Gore, & Morris, 2003), appear to be most likely to display behaviors and symptoms consistent with an unsuccessful and precarious transition to adulthood. It is possible that identity problems may add to other issues that help to predispose the person toward risky and antisocial behavior.

General characterizations of the identity profiles

Based on their demographic, psychosocial, and health-related correlates, the profiles can be described clinically and in a way that invites further research and theorizing on presentations of identity among college-aged young adults. The Synthesized profile appeared to be most advantaged in terms of well-being and avoiding internalizing symptoms and risky activities. These individuals appear to be clear about who they are and where they are going in their lives — and they likely represent what Côté (2000) has called “developmental individualization.” The amorphous nature of the prolonged transition to adulthood is advantageous to those young people who have the necessary agency to create their own paths, as the Synthesized profile appears to possess. It is also possible, of course, that Synthesized individuals have access to more positive role models and supportive resources that help them to create the agency needed to find one’s way into adult roles in the Western world. Indeed, research has characterized the achieved status — to which the Synthesized profile is similar — in terms of balance and reciprocity in relationships with family members, well-reasoned decision making, and a willingness to revisit choices that have been enacted in the past but that are no longer functional (see Kroger & Marcia, 2011, for a review).

The Moderate profile appears to fall “in the middle” in terms of the psychosocial and health outcomes. It is similar to the low profile moratorium status identified by Bennion and Adams (1986) to refer to individuals who were near the sample midpoints on both exploration and commitment, and who could not be safely characterized into one of the other statuses. Crocetti et al. (2008) and Luyckx et al. (2005) have extracted similar “undifferentiated” clusters that scored intermediately on a number of psychosocial and relational outcomes. Given the relative independence between well-being and problematic outcomes (Keyes, 2005), it might be concluded that the Moderate cluster consists of individuals who are not evidencing high degrees of internalizing, externalizing, or health risk outcomes — but who are also not flourishing or thriving (e.g., experiencing high degrees of well-being and meaning in life; Keyes, 2007).

Both the Diffused and Elevated profiles appear to represent difficulties with transitioning toward adulthood, but in different ways. Similar to the diffused identity status, the Diffused profile was associated with relatively lower well-being, elevated internalizing and externalizing symptoms, and heightened health risk behavior engagement. Being confused, and not particularly synthesized, in one’s sense of identity is therefore linked with some degree of symptomatology. A combination of reports of high synthesis and high confusion, however, appears to portend even more severe levels of symptomatology during the transition to adulthood. Given that the transition to adulthood involves a need to begin to consolidate a sense of self that will be carried forward into full adulthood (Arnett, 2007; Côté, 2000), a persistent inability to make progress toward resolving this task (whether through diffusion or through elevated levels of both synthesis and confusion) is likely associated with distress as well as with avoidant strategies such as aggression, thrill seeking, and other risky behaviors. Such individuals may be more concerned with engaging in risky behaviors as a way of fitting in or feeling good than they are about their long-term future goals (e.g., Kuntsche, Knibbe, Gmel, & Engels, 2005; Lyvers, Hasking, Hani, Rhodes, & Trew, 2010). Indeed, Berzonsky and Ferrari (2009) found that identity-avoidant strategies are generally undertaken as part of a present-oriented (rather than future-oriented) thought process. Although identity may be an important component of these avoidant strategies, it is essential to keep in mind that other factors may play a role as well — and that these factors (e.g., genetics, stress, social relationships) may add to or interact with identity in predicting risky behavior.

To the extent to which identity problems contribute to the patterns observed in the Diffused and Elevated profiles, one might conclude that participants in these profiles may have chosen to engage in behaviors with the potential to thwart their efforts to make progress toward

¹ The lack of profile differences for unprotected sex may reflect a propensity for individuals in committed relationships not to use condoms (Warren, Harvey, & Agnew, 2012).

adulthood. Of course, any assumption that these behaviors occur by choice must be qualified by genetic or environmental influences that may also contribute to risky behavior. Nonetheless, for college students, engaging in risky or illegal behaviors might reduce the likelihood of completing a bachelor's degree. A diffused or internally inconsistent sense of identity is likely to interfere with future orientation, in that the person is more interested in seeking immediate pleasure than in planning for the future (Luyckx, Lens, Smits, & Goossens, 2010).

The small size of the Elevated profile (less than 5% of the total sample) is worthy of discussion. Although this profile is comparatively small, the consistent associations with problematic outcomes (low well-being and high scores on internalizing, externalizing, and health risks) suggest that the Elevated profile is reliable and consists of individuals who likely require some sort of clinical or counseling intervention. The small proportion of Elevated individuals in our sample could reflect a tendency for such troubled young people not to attend college (meaning that the representation of Elevated individuals might be higher in a community sample), although further research is needed to examine this possibility.

Limitations

The present findings should be interpreted in light of at least five important limitations. First, the use of a cross-sectional design, with data collection at a single point in time, permits conclusions to be drawn regarding associations, but not regarding directionality. We do not know whether having high levels of both synthesis and confusion leads young people to engage in risky behavior, or whether the effect operates in the opposite direction or is bidirectional. Second, although the college or university environment serves as an appropriate context for studying identity development, it is also important to examine identity processes in young people who do not attend post-secondary institutions. For example, Luyckx, Schwartz, Goossens, and Pollock (2008) found significant differences in identity exploration and commitment scores between college students and their non-college peers. Third, and relatedly, the unbalanced gender distribution in our sample may have biased the results in favor of patterns observed in women. It may be important for future studies to oversample college men, whose share of the student population is continuing to decrease (Snyder & Dillow, 2010). Fourth, it is possible that the accuracy of self-reports may be compromised when individuals complete questionnaires anonymously (Lelkes, Krosnick, Marx, Judd, & Park, 2012), as was the case in the present study. Although anonymity may increase honest reporting of risky or sensitive behaviors in some cases (Turner et al., 1998), participants may nonetheless overreport or underreport aggressive and risky behaviors for a number of possible reasons. Legal, collateral, or biological evidence may serve as valuable alternative sources of data with respect to problematic behaviors. It should be noted that Dillon, Turner, Robbins, and Szapocznik (2005) found high levels of agreement between drug use self-reports and urinalyses — suggesting that reports of risky behavior are generally accurate. Further, it should be recognized that individuals vary with respect to the insight that they possess with respect to their own psychological functioning (Churchill, 2000), including with regard to their own identity development, a circumstance that appears particularly likely if defensive splitting is affecting the reports offered by respondents in the Elevated class. Fifth, although our sample was large and was drawn from around the United States, it was not population-based. A randomly selected, representative sample would have increased the generalizability of our results.

Conclusion

Despite these and other limitations, the present results suggest that identity synthesis and confusion, drawn from Erikson's (1950, 1968) writings and assessed in both private and public domains, can be used to extract latent profiles of young people who differ systematically in

their degree of successful identity development. These profiles appear to have considerable public health import, in that a diffused or troubled sense of identity may — at least in part — represent a risk not only for failing to transition into full adulthood, but also for internalizing symptomatology and engaging in personally and socially destructive behaviors. Provided that the present results can be replicated longitudinally, these patterns may help to inform the design of interventions to help young people to develop synthesized and integrated identities to support navigating their way during the prolonged transition to adulthood. We hope that the present study and findings will help to inspire more research and intervention development in this direction.

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