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Identity Synthesis and Confusion in Early to Late Adolescents: Age Trends, Gender Differences, and Associations with Depressive Symptoms

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Abstract

Introduction. Research on identity development has primarily studied over-time trends in identity status change and exploration and commitment processes among late adolescents and emerging adults. Identity development in early and mid-adolescents has generally been overlooked. Hence, little is known about how a sense of identity synthesis and confusion evolves from early to late adolescence for boys and girls.

Methods. The present cross-sectional study examined gender-moderated age trends in identity synthesis and confusion from ages 12 to 25 among 5860 Belgian adolescents (56.1% girls; M_{age} = 16.09). In addition, using a subsample of 2782 participants, we investigated associations of identity synthesis and confusion with depressive symptoms in early, mid-, and late adolescents.

Results. Mean scores on identity synthesis decreased from ages 12 to 15, subsequently increased from ages 15 to 23, and decreased again later on. Mean scores on identity confusion followed a parallel but opposite cubic trend. Gender differences in these age trends were dependent upon the developmental period. For all age groups, identity synthesis scores were negatively associated with depressive symptoms, whereas positive associations emerged between identity confusion and depressive symptoms.

Conclusions. From 12 to 25 years old, individuals experience an increasing sense of identity synthesis and less identity confusion, despite fluctuations that appear to be dependent upon the developmental period. Identity synthesis and confusion seem to be strongly negatively and positively associated with depressive symptoms in early, mid-, and late adolescents.

Keywords: EPSI; identity; adolescence; age trends; depressive symptoms

Introduction

Identity Development From Early to Late Adolescence

Identity development is a lifelong process, but is particularly characteristic of adolescence (Erikson, 1968). Triggered by biological, psychological, and social changes, young individuals feel inclined to rethink their childhood self-perceptions and explore which life directions they might commit to. This quest for a new sense of personal identity is generally covered during the teens and twenties and most optimally consists of progressive but gradual developmental shifts in one's self-definition, with particularly a move from identity confusion to identity synthesis (Erikson, 1968; Waterman, 1982). Along these lines, early adolescents might predominantly experience confusion about their identity, as they are in the middle of figuring out who they are. Differently, late adolescents might experience less identity confusion and perceive a growing sense of identity synthesis, as they have usually committed to certain identity choices in one or more life domains and have developed a more clear picture of their beliefs, values, and plans (Erikson, 1968). However, due to delays in committing to adult responsibilities (such as starting a job or parenthood), exploration of adult roles might be especially characteristic of late adolescence. Consequently, many late adolescents might still struggle with contradictory feelings about their identity or might oscillate between the wish to commit and the fear of making wrong decisions. Although personal identity formation is considered to be a crucial developmental task, no study to date has examined age-related changes in identity synthesis and confusion from early to late adolescence.

The deficiency of research on developmental trends in identity synthesis and confusion might be attributable to Erikson's (1968) theory being a complex one to extract operational definitions from (Schwartz, 2001). Only three studies in early and mid-adolescents have examined age trends in identity synthesis and confusion, yielding inconsistent findings. Schwartz, Mason, Pantin, and Szapocznic (2009) primarily found changes in identity confusion

(both increases and decreases), rather than in identity synthesis, concluding that as early adolescents have just begun to explore their identities, confusion may be more likely to appear than synthesis. In contrast, Schwartz et al. (2012, 2017) pointed to an increase in identity synthesis and no changes in identity confusion, suggesting that identity becomes more integrated across adolescence. In addition to these rather conflicting results, these studies were limited to early and mid-adolescents, overlooking identity formation in late adolescents.

The majority of research on identity development is based on Marcia's (1980) identity status paradigm. Like Erikson, Marcia believed that a process of exploring identity options and then committing to one or more of these options represents the most adaptive way to build a synthesized identity (Kroger & Marcia, 2011). Marcia (1966, 1980) classified four ways (or statuses) of identity formation: commitment to identity choices after exploration (achievement), commitment without prior exploration (foreclosure), active exploration with little or no commitment (moratorium), and little or no exploration and commitment (diffusion). Longitudinal studies on identity status change in adolescence and emerging adulthood have pointed to stability or progressive changes from less adaptive statuses (e.g., diffusion) towards more adaptive statuses (e.g., achievement; Kroger, Martinussen, & Marcia, 2010; Meeus, van der Schoot, Keijsers, Schwartz, & Branje, 2010).

Over the past two decades, the field has advanced considerably through the generation of process-oriented models that build on Marcia's framework and allow for a fine-grained focus on identity processes (Crocetti, Rubini, & Meeus, 2008; Luyckx, Schwartz, Berzonsky, et al., 2008). Luyckx et al. (2008) developed a five-process model, including exploration in breadth, commitment making, exploration in depth, identification with commitment, and ruminative exploration, whereas Crocetti et al. (2008) developed a three-process model, comprising commitment, exploration in depth, and reconsideration of commitment. Crocetti et al.'s (2008) commitment process largely overlaps with Luyckx et al.'s (2008) commitment making and

identification with commitment processes, concerning the enactment of and identification with identity choices. Furthermore, whereas exploration in breadth signifies the exploration of various identity options, exploration in depth involves the evaluation of existing commitments. Finally, whereas reconsideration of commitment refers to comparing current commitments with potential alternatives and discarding them if they are no longer satisfactory, ruminative exploration refers to repeatedly considering and worrying about identity directions (Crocetti et al., 2008; Luyckx, Schwartz, Berzonsky, et al., 2008).

Longitudinal research based on these process models has generally reported stability or changes in identity processes towards maturity (van Doeselaar, Becht, Klimstra, & Meeus, 2018). Studies characterizing identity formation from early to late adolescence demonstrated that youngsters increasingly engage in pro-active exploration and commitment, whereas they engage less in reconsideration of commitment or ruminative exploration (Crocetti et al., 2009; Hatano & Sugimura, 2017; Luyckx, Teppers, Klimstra, & Rassart, 2014; Schwartz et al., 2012). Comparing early to mid-adolescents with mid- to late adolescents, Klimstra et al. (2010) indicated that commitment making and reconsideration processes are more prominent in early adolescents, whereas in-depth exploration gains more importance in late adolescents. Parallel to research in adolescents, studies in emerging adults have found an upward trend in commitment making and exploration in depth (Luyckx, Schwartz, Goossens, Soenens, & Beyers, 2008; Luyckx, Soenens, & Goossens, 2006). Altogether, throughout adolescence, individuals seem to increasingly commit to identity roles, which they continue to explore, whereas reconsideration and rumination seem to diminish with age.

Based on these results, scholars assume that (concomitant with the reported increase in commitment and decrease in reconsideration or rumination) youngsters' sense of identity synthesis and confusion will further increase and decrease, respectively, across late adolescence. However, despite that all these studies on trends in exploration in commitment

processes are rooted in and largely inspired by Erikson's identity theory, no study to date has examined age trends in identity synthesis and confusion from early to late adolescence. Accordingly, this cross-sectional study examined age trends in identity synthesis and confusion in a large sample of 12 to 25-year olds.

Gender Differences in Identity Development

The task of forming a personal identity throughout adolescence can be addressed differently by boys and girls. The issue of gender differences in identity development has attracted theoretical and empirical attention ever since Erikson's (1968) writings on women's identity. In his psychosocial theory, Erikson (1968) touches on various (often gender-specific) influences to identity development. In addition to the effects of societal and cultural ideals, expectations, and practices on identity, Erikson (1968) suggests that identity development occurs in tandem with biological growth. More specifically, he attributes gender differences in identity to males' and females' reproductive anatomy. Characteristics classically ascribed to females (such as motherly love/care, tenderness, and preoccupation with relationships), and stereotypical male characteristics (such as agential and instrumental action) were expected to result in gender differences in the developmental pathways, the timing, and/or the identity domains involved in identity formation (Erikson, 1968; Marcia, 1980). However, subsequent research concluded that (adolescent) males and females seem to follow rather similar pathways of identity development and do not differ in their timing of this development (Archer, 1989; Kroger, 1997). Only the domains or content areas in which males and females define themselves are slightly different; the domains of sexuality and family roles seem to be more relevant to identity formation for females than for males (Archer, 1989; Kroger, 1997). As a result, questions arose regarding the usefulness of Erikson's theory as a framework for understanding gender differences in identity formation (Sorell & Montgomery, 2001). Particularly nowadays, as Western societies have become increasingly complex and the focus on individualization has

intensified, Erikson's (1968) approach to understanding gender differences in identity may be founded on outdated assumptions (Sorell & Montgomery, 2001). Still, scholars agree that the study of gender-moderated pathways of identity development is highly relevant as identity is increasingly considered to be a socio-culturally embedded construct.

However, contemporary work on gender differences in identity formation is scarce and has yielded inconsistent findings. Schwartz et al. (2011) indicated that 18 to 25-year old girls are more likely classified into achievement and less likely into diffusion compared to boys. Differently, Verschueren et al. (2017) found 14 to 30-year old girls to be overrepresented in moratorium and underrepresented in foreclosure and diffusion compared to boys. With regard to identity processes, Bogaerts et al. (2019) demonstrated that 11 to 19-year old boys report higher levels of commitment and lower levels of ruminative exploration than girls. Other studies found adolescent girls to score higher on exploration in depth than boys (Klimstra et al., 2010; Luyckx, Schwartz, Berzonsky, et al., 2008). Moreover, gender differences in these identity processes seem to be dependent upon the developmental window in which they occur. Klimstra et al. (2010) found that in early to mid-adolescence, girls report lower levels of reconsideration of commitment than boys, whereas these differences become smaller in late adolescence. Similarly, Meeus et al. (2010) found that girls are less likely than boys to be classified into moratorium in early to mid-adolescence, suggesting that girls may be further ahead on identity formation with boys catching up during the course of adolescence.

In contrast, studies on gender differences in identity synthesis and confusion have unambiguously indicated male adolescents and emerging adults to report higher levels of synthesis and lower levels of confusion than female adolescents and emerging adults (Bogaerts et al., 2019; Claes, Luyckx, & Bijttebier, 2014). Unfortunately, none of these studies distinguished between different developmental periods. To obtain a better insight into contemporary gender differences in age trends in identity formation, the present study

investigated gender-moderated age trends in identity synthesis and confusion among 12 to 25-year old boys and girls.

Identity Development and Depressive Symptoms

The risk of depressive symptoms sharply rises as individuals transition to adolescence and to young adulthood, with girls reporting higher levels of depression compared to boys (Merikangas et al., 2010; Van Droogenbroeck, Spruyt, & Keppens, 2018). Symptoms often emerge at the age of 14 or 25 and include feelings of worthlessness, a reduced interest in most activities, and problems with decision-making (APA, 2013; Hewlett & Moran, 2014).

Although genetic and social factors play a role, (difficulties in) identity development might contribute to the increase in depressive symptoms. Cross-sectional studies indicated that identity synthesis is negatively and identity confusion positively related to depressive symptoms (Claes et al., 2014; Kaynak-demir & Sönmez, 2010). Longitudinal studies, although scarce, demonstrated that self-concept clarity (resembling identity synthesis) negatively (Schwartz et al., 2012) and identity confusion positively predict depressive symptoms (Hatano et al., 2018; Schwartz et al., 2017). However, these studies have been carried out in early to mid-adolescents, overlooking how identity is linked to depression in the late teens and twenties.

Differently, process-oriented research has focused on associations between identity and depressive symptoms in both adolescents and emerging adults. Luyckx et al. (2013) indicated that commitment processes are negatively and ruminative exploration is positively associated with depressive symptoms among 14 to 30-year olds. Moreover, these associations were stronger in emerging adults than in adolescents. Van Doeselaar et al. (2018) found commitment to predict a decrease in depressive symptoms among adolescents and emerging adults. Although insightful, studies in adolescents and emerging adults have indicated that variables indicative of identity synthesis and confusion mediate the pathways from identity processes to depressive symptoms and are a stronger predictor of depressive symptoms than identity processes (Luyckx,

Schwartz, Soenens, Vansteenkiste, & Goossens, 2010; Schwartz et al., 2012; Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009). Accordingly, the present study examined how identity synthesis and confusion are related to depressive symptoms in early, mid-, and late adolescents.

The Present Study

The present study addressed three research objectives. First, we examined age trends in identity synthesis and confusion from ages 12 to 25. We generally expected identity synthesis to increase and identity confusion to decrease from early to late adolescence (Schwartz et al., 2012, 2017). Because of inconsistent findings with regard to developmental trends in identity synthesis and confusion occurring in early adolescence (Schwartz et al., 2009, 2012, 2017), we did not formulate specific hypotheses for this age bracket. From mid-adolescence onwards, we hypothesized identity synthesis to increase and identity confusion to decrease as previous research pointed to upward trends in commitment and downward trends in reconsideration of commitment or ruminative exploration (Hatano & Sugimura, 2017; Luyckx et al., 2013, 2014). Finally, we expected an increase in identity confusion (possibly accompanied by a decrease in identity synthesis) in late adolescence, as this life period brings a new array of identity-related choices in various life domains, which may cause distress and rumination (Luyckx et al., 2013; Palmeroni et al., 2019).

Second, we examined whether age trends in identity synthesis and confusion were moderated by gender. With regard to the overall mean levels of identity synthesis and confusion, we generally expected male adolescents to score significantly higher on identity synthesis and significantly lower on identity confusion as compared to female adolescents (Bogaerts et al., 2019; Claes et al., 2014). Furthermore, as previous process-oriented research indicated that gender differences in identity processes seem to be dependent upon the developmental window in which they occur (Klimstra et al., 2010; Meeus et al., 2010), different

trends or fluctuations in identity synthesis and confusion could occur for boys and girls from early to late adolescence. Because studies on gender-moderated age trends in identity synthesis and confusion are virtually absent, we could not formulate specific hypotheses with respect to such differential age trends.

Third, we compared the three age groups with regard to their associations between identity and depressive symptoms. We expected identity synthesis to be negatively and identity confusion to be positively associated with depressive symptoms in each age group (Hatano et al., 2018; Schwartz et al., 2012, 2017). Additionally, as Erikson (1968) suggested that identity confusion may lead to psychopathology when it extends into (young) adulthood, we expected the associations between identity synthesis and confusion, and depressive symptoms to be stronger in late adolescents. Relatedly, process-oriented research demonstrated that commitment processes are more strongly negatively associated with depressive symptoms in emerging adults than in adolescents (Luyckx et al., 2013).

Methods

Participants and Procedure

The present study included 12 cross-sectional data samples, collected between 2012 and 2019 in Flanders, the Dutch speaking part of Belgium (see Supplementary Material Table 1 for more information on all samples). The total sample comprised 5860 Belgian adolescents (56.1% girls) with a mean age of 16.09 years (*SD* = 3.02; range = 12-25). Table 1 describes all three age groups (early, mid-, and late adolescents) in terms of sample size, gender distribution, mean age, age range, and descriptive characteristics. The total sample, consisting of high school students, college students, and employed individuals, completed surveys online or using paper and pencil (during school hours). In all studies, which were approved by the ethical committee

of the Faculty of Psychology and Educational Sciences of KU Leuven, respondents signed an informed consent and participated voluntarily.

Measures

Identity. All participants completed the identity subscale from the Erikson Psychosocial Stage Inventory (EPSI; Rosenthal, Gurney, & Moore, 1981; Schwartz, Zamboanga, Wang, & Olthuis, 2009). The EPSI consists of six items measuring identity synthesis (e.g., "I know what kind of person I am") and six items measuring identity confusion (e.g., "I feel mixed up"), rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Research has supported its two-factor structure and has yielded valid and reliable scores in early to late adolescents (Bogaerts et al., 2018; Schwartz, Zamboanga, Wang, et al., 2009). Alpha coefficients for identity synthesis and confusion were .73 and .62 in early adolescents, .74 and .69 in mid-adolescents, and .72 and .74 in late adolescents.

Depressive symptoms. In four out of 12 samples (n = 2782 12 to 25-year olds; see Supplementary Material Table 1), depressive symptoms were measured by means of the 16-item depression scale from the Symptom Checklist-90 (SCL-90-D; Derogatis, Rickels, & Rock, 1976). Items are rated on a 5-point scale ranging from 1 (*not at all*) to 5 (e*xtremely*), indicating how often the individual has experienced the symptoms in the past week (e.g., "Worrying too much about things"). The SCL-90 has shown to produce valid and reliable scores in adolescent samples (Rytilä-Manninen et al., 2016). The alpha coefficient was .92 in early adolescents and .93 in mid- and late adolescents.

Statistical analyses

Due to the large sample size, the significance level for all analyses was set to $p < .01$. To examine gender-moderated age trends in identity synthesis and confusion in 12 to 25-year old adolescents, we performed two hierarchical regression analyses with identity synthesis and

confusion as dependent variables. In a first, second, and third step, we entered the, respectively, centered value of age (Age), squared centered value of age (Age^2), and cubic centered value of age (Age^3) to examine whether a linear, quadric, or cubic function of age would be the best approximation of the data. In a final step, interaction terms (Age x Gender, Age^2 x Gender, and Age^3 x Gender) were entered to examine different trends for boys and girls. In addition, we performed a multivariate analysis of variance (MANOVA) with identity synthesis and confusion as dependent variables, and gender and age groups as fixed factors to examine gender differences in synthesis and confusion among three age groups (early, mid-, and late adolescents). Furthermore, we examined associations between identity and depressive symptoms in the three age groups using Pearson correlations. Correlation coefficients of .10, .30, and .50 indicated respectively small, medium, and large effects (Cohen, 1988). Furthermore, we examined whether these associations significantly differed between age groups using the *z* test for independent correlations.

Results

Age Trends in Identity Synthesis and Confusion

Figures 1 and 2 display age trends in mean identity synthesis and confusion scores from ages 12 to 25. As can be seen in Table 2, hierarchical regression analyses pointed to linear, quadric, and cubic age trends. The centered, squared centered, and cubic centered value of age predicted identity synthesis and confusion. Figures 1 and 2 indicate that identity synthesis seemed to decrease and identity confusion seemed to increase from ages 12 to 15. From mid-adolescence onwards (age 15 or 16), opposite trends were observed with identity synthesis showing an upward trend and confusion showing a downward trend. Around 23 years, identity synthesis seemed to decrease again, whereas identity confusion seemed to increase.

Gender Differences

Table 3 presents gender differences in mean identity synthesis and confusion scores among early, mid-, and late adolescents. With regard to gender differences in age trends in identity synthesis and confusion, Table 2 shows the significant interaction effects of Age x Gender and Age² x Gender. In early adolescence, girls reported significantly lower mean levels of identity synthesis and significantly higher mean levels of identity confusion compared to boys (see Table 3). Regarding gender differences in age trends in identity synthesis in early adolescence, both boys and girls showed a decrease in identity synthesis, though they seemed to differ with regard to the timing of this decrease. Whereas girls seemed to show a notable decrease between 12 and 13 years, boys seemed to report a decrease between 14 and 15 years. Regarding early adolescents' age trends in identity confusion, girls showed a slight increase in confusion, whereas boys showed a slight decrease followed by an upward trend.

In mid-adolescence, girls again reported significantly lower mean levels of identity synthesis and significantly higher mean levels of identity confusion compared to boys (see Table 3). With regard to age trends, mid-adolescent girls showed an upward trend in identity synthesis and a stable trend in identity confusion. Alternatively, mid-adolescent boys showed an upward trend in identity confusion and a stable trend in identity synthesis.

In late adolescence, girls and boys did not significantly differ on their mean identity scores (Wilks' $\lambda = 1.00$, $F(2, 5841) = .79$, $p = .454$; see Table 3). However, important gender differences in age trends became apparent, with girls showing an increase and boys showing a decrease in identity synthesis from 18 to 20 years. Despite different trends in identity synthesis, both boys and girls showed a decrease in identity confusion from 18 to 20 years. From ages 20 to 23, boys and girls seemed to show a stable or increasing level of identity synthesis and decreasing levels of identity confusion. Finally, boys and girls demonstrated a slight decrease in identity synthesis and a slight increase in identity confusion from 23 to 24 years. As can be seen in Figures 1 and 2, boys reported the highest levels of synthesis and the lowest levels of

confusion at 23 years old, whereas girls reported the highest levels of synthesis at 21 years and the lowest levels of confusion from 20 to 23 years.

Associations Between Identity and Depressive Symptoms

As indicated in Table 4, in all age groups, identity synthesis was negatively and identity confusion positively associated with depressive symptoms. All correlations coefficients were large (> .50; Cohen, 1988). The three age groups did not significantly differ from one another with regard to the strength of these correlations.

Discussion

The present study examined age-related and gender-moderated changes in identity synthesis and confusion from early to late adolescence, and compared early, mid-, and late adolescents on their associations between identity and depressive symptoms.

Age Trends in Identity Synthesis and Confusion

Important age trends were uncovered, highlighting identity formation as a gradual process of change. Scores on identity synthesis decreased from ages 12 to 15, subsequently increased from ages 15 to 23, and decreased again from ages 23 to 25. An opposite cubic trend emerged for identity confusion. The decrease in identity synthesis and the increase in identity confusion during early adolescence may emanate from the identity crisis presenting at the beginning of adolescence. Early adolescents start questioning their childhood identity, which was previously shaped and defined by their caregivers, and start exploring their own beliefs, interests and aspirations (Erikson, 1968). During this time, adolescents' sense of sameness and continuity (relied on earlier) may abate and normative feelings of confusion and doubt may surface. Thus, our findings seem to fit Erikson's (1968) description of identity formation in early adolescence. Moreover, the observed increase in confusion in early adolescence has also been identified in

previous research by Schwartz et al. (2009), in which a subgroup of early adolescents reported an increase in identity confusion over time.

However, our results oppose studies reporting an increase in commitment from early to late adolescence as it is believed that commitments provide individuals with a sense of sameness and continuity (Crocetti et al., 2009; Luyckx et al., 2013; Schwartz et al., 2012). Our findings seem to imply that the frequently reported increase in commitment from early adolescence onwards may not necessarily nor immediately translate into an increase in identity synthesis. More so, an increase in commitment may potentially co-exist with feelings of identity confusion. In support of these assumptions, Markovitch et al. (2017) found that commitment is positively associated with ruminative exploration in early adolescents. De Moor et al. (2019) recently emphasized that as early adolescents go through multiple changes and transitions, they are in an ongoing process of adjusting and readjusting their identity. Relatedly, Waterman (1999) argued that early adolescents' commitments may easily give way to new rounds of exploration. Consequently, early adolescents' commitments may be of a more temporary nature (Schwartz et al., 2012), highly susceptible to change and less strongly related to identity synthesis.

We observed an increase in identity synthesis and a decrease in identity confusion from ages 15 to 23. These findings align well with Luyckx et al.'s (2013) study pointing to an increase in commitment processes around the age of 16 and Palmeroni et al.'s (2019) study reporting a decrease in identity distress around the age of 17. Relatedly, Klimstra et al. (2010) demonstrated that levels of reconsideration of commitment decreased between ages 12 and 16, whereas levels of in-depth exploration increased between ages 16 and 20. These empirical results seem to support Waterman's (1999) developmental proposition that, over time, adolescents will move out of the diffusion status (characterized by low commitment) and into the achievement status (characterized by high commitment). Collectively, it appears that, from mid-adolescence

onwards, individuals seem to increasingly develop a synthesized identity and experience less confusion about who they are. Although there is a great need for research examining why youngsters' identity commitments and related sense of identity synthesis are on the increase during mid- and late adolescence, it may be that as young individuals have had some time to profoundly explore, commit, and identify with their identity choices, this may coincide with a decrease in identity confusion and an increase in identity synthesis, or vice versa. Whereas early adolescents' commitments may be rather temporary and highly susceptible to change, mid- and late adolescents' identity choices may be more stable and, hence, more strongly related to identity synthesis.

Finally, we observed a decrease in identity synthesis and an increase in identity confusion between ages 23 and 25. These findings parallel those of Luyckx et al. (2013) and Palmeroni et al. (2019) reporting, respectively, an increase in ruminative exploration and identity distress during the early twenties. Around the age of 23, Belgian adolescents usually finish higher education and are faced with new challenges such as leaving the parental home and finding a satisfactory job. Such transitions may trigger new periods of exploration and reconsideration, prompting individuals to rethink and revise their identity (Luyckx et al., 2013). However, such identity reconsiderations and adaptions may cause feelings of confusion, distress, and rumination (Schwartz, Zamboanga, Weisskirch, et al., 2009). Although these feelings are considered normal during this period, they may temporarily undermine pro-active identity development (Beyers & Luykx, 2015).

Altogether, the present study seems to indicate that, throughout adolescence, periods of higher levels of synthesis and lower levels of confusion alternate with periods of higher levels of confusion and lower levels of synthesis. Moreover, the timing of these periods strongly suggests that identity development is subject to biological, psychological, cognitive, and social development marking adolescence (Erikson, 1968). Nevertheless, fluctuations in identity

synthesis and confusion were rather small, emphasizing the well-documented level of stability in identity statuses and processes over time (Klimstra et al., 2010; Kroger et al., 2010; Meeus, 2011).

Gender Differences

Overall gender differences in identity synthesis and confusion were observed solely in early and mid-adolescents (12 to 17-year olds) with girls reporting lower mean levels of identity synthesis and higher mean levels of identity confusion than boys. These findings align well with results of previous research on gender differences in identity synthesis and confusion (Bogaerts et al., 2019; Claes et al., 2014). Among late adolescents, girls and boys did not significantly differ with respect to their mean identity scores. Importantly, the present study identified different age trends for boys and girls. In early adolescence, both girls and boys showed a decrease in identity synthesis. Consistent with the previous, early adolescent girls showed a slight increase in identity confusion. Differently, boys displayed a slight decrease in identity confusion followed by an upward trend. As previous studies seem to suggest that girls start exploring and forming their identity at an earlier age than boys (Klimstra et al., 2010; Meeus et al., 2010), girls might be more likely to experience elevated levels of identity confusion at an earlier age. Kroger (1997) related girls' head start in identity development to their earlier physical maturation.

Regarding age trends in mid-adolescence, girls showed an upward trend in identity synthesis and a stable trend in identity confusion. Alternatively, boys showed an upward trend in identity confusion and a stable trend in identity synthesis. As such, around 19 years old, boys and girls seemed to demonstrate similar mean levels of identity synthesis and confusion. Whereas process-oriented studies suggested that boys catch up on girls in identity formation across adolescence (Klimstra et al., 2010; Meeus et al., 2010), our results imply that, by late adolescence, girls catch up on boys in developing a synthesized identity, as girls show an

increase and boys show a stable trend in identity synthesis. These findings emphasize that gender-moderated age trends in exploration and commitment may not be directly comparable to gender-moderated age trends in identity synthesis and confusion.

Important gender differences in age trends became apparent in late adolescence. Whereas girls displayed an increase in identity synthesis, boys reported a new decrease. Later on, both boys and girls demonstrated a stable or increasing level of identity synthesis and decreasing level of identity confusion, followed by a slight decrease in identity synthesis and a slight increase in confusion. Collectively, our results suggest that, although late adolescent boys and girls do not significantly differ with regard to their mean identity synthesis and confusion scores, they appear to differ in the timing of their identity formation.

Associations Between Identity and Depressive Symptoms

As hypothesized, we observed negative associations between identity synthesis and depressive symptoms, and positive associations between identity confusion and depressive symptoms (Hatano et al., 2018; Schwartz et al., 2012, 2017). Inconsistent with our expectations, associations between identity and depressive symptoms were not significantly stronger in late adolescents compared to early and mid-adolescents. Although previous research indicated that, particularly for late adolescents and emerging adults, continued identity exploration or lack of commitment may elicit psychological distress (Luyckx et al., 2013; Palmeroni et al., 2019; Wängqvist & Frisén, 2011), our study seems to suggest that experiencing identity synthesis is equally important for the psychological well-being of early, mid-, and late adolescents.

Limitations and Suggestions for Future Research

The present results should be interpreted in light of some shortcomings. First, all data were self-reported, which may have caused inflated correlations among the variables due to shared method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future research could

employ a multi-informant and multi-method approach to address this limitation. Second, due to the cross-sectional design, no conclusions with respect to developmental trends in identity synthesis and confusion could be made. Large-scale longitudinal research in which cohorts of individuals are followed from early to late adolescence is needed to reach definite claims. In addition, Figures 1 and 2 show that confidence intervals of 19 to 25-year olds' mean identity scores were much wider than those of 12 to 18-year olds. Although the present study seems to provide an accurate picture of age trends in identity synthesis and confusion in early and mid-adolescents, future research could attempt to obtain a better notion of identity development in a larger sample of late adolescents. Third, the present study remains descriptive in nature and does not directly provide evidence or insight into how the observed age trends came about. As adolescence comes with changes in all spheres of functioning, future studies could attempt to shed light on the individual and contextual mechanisms by which identity development is impacted. Relatedly, the present study primarily sampled Caucasian European adolescents and administered an identity measure (the EPSI) that has been developed in Western culture. Although studies conducted in different countries obtain similar findings with regard to identity formation throughout adolescence (Crocetti et al., 2009; Hatano & Sugimura, 2017; Klimstra et al., 2010; Luyckx et al., 2014; Schwartz et al., 2012, 2017) and research shows the factorial validity of the EPSI in adolescent samples in the United States and Japan (Dimitrova, Hatano, Sugimura, & Ferrer-Wreder, 2018), the findings obtained in our study cannot be generalized to other non-Caucasian or more socio-culturally diverse samples. Future research could investigate how adolescents' broader socio-cultural context influences identity development.

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Tables

Table 1. *Sample Description of Each Age Group.*

Age group	*n*	% girls	*M* (*SD*) age	Age range	Sample description (%)
Early adolescents	1889	53.4	13.27 (0.82)	12-14	*Nationality*: 84.8 Belgian, 2.6 Dutch, 1.1 other, 11.5 missing *Relational status*: 72.3 single, 12.8 in a relationship, 14.9 missing *Family structure*: 64.5 parents living together, 15.8 parents divorced, 0.7 parent deceased, 6.3 reconstituted family, 1.5 other, 11.2 missing *School/employment*: 89.2 high school students, 10.8 missing
Mid-adolescents	2750	55.7	15.90 (0.81)	15-17	*Nationality*: 74.76 Belgian, 2.44 Dutch, 1.64 other, 21.16 missing *Relational status*: 55.2 single, 27.9 in a relationship, 16.9 missing *Family structure*: 62.7 parents living together, 17.2 parents divorced, 1.6 parent deceased, 5.8 reconstituted family, 2.1 other, 10.4 missing *School/employment*: 89.6 high school students, 10.4 missing
Late adolescents	1221	60.9	20.89 (2.43)	18-25	*Nationality*: 72.5 Belgian, 1.3 Dutch, 1.5 other, 24.7 missing *Relational status*: 29 single, 28.8 in a relationship, 42.2 missing *Family structure*: 54.9 parents living together, 18.9 parents divorced, 2.9 parent deceased, 3.6 reconstituted family, 1.1 other, 18.6 missing *School/employment*: 24.9 high school students, 32.4 college students, 21.6 employees, 1.3 other, 19.8 missing

Note. *n* = sample size; *M* = mean; *SD* = standard deviation.

Table 2. *Standardized Betas From the Hierarchical Regression Analyses.*

Steps of the hierarchical regression analyses	Identity synthesis	Identity confusion
Model 1		
Age	.06***	-.05***
R^2 change	.003***	.002***
Model 2		
Age	-.01	.03
Age²	.09***	-.11***
R^2 change	.005***	.007***
Model 3		
Age	.10***	-.05*
Age²	.26***	-.24***
Age³	-.26***	.20***
R^2 change	.006***	.003***
Model 4		
Age	-.03	.07
Age²	.37***	-.32***
Age³	-.25***	.15*
Age x Gender	.18***	-.17***
Age² x Gender	-.21***	.15**
Age³ x Gender	.02	.03
R^2 change	.013***	.009***

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

Table 3. *Gender Differences in Study Variables in Each Age Group.*

	Age group											
	(1) Early adolescents Aged 12 to 14				(2) Mid-adolescents Aged 15 to 17				(3) Late adolescents Aged 18 to 25			
	Boys	Girls	*F*	Partial η^2	Boys	Girls	*F*	Partial η^2	Boys	Girls	*F*	Partial η^2
	M (*SD*)				*M* (*SD*)				*M* (*SD*)			
Identity synthesis	3.84 (0.65)	3.55 (0.65)	96.98***	.016	3.74 (0.62)	3.52 (0.65)	81.19***	.014	3.79 (0.62)	3.75 (0.57)	1.13	.000
Identity confusion	2.44 (0.58)	2.71 (0.66)	74.47***	.013	2.53 (0.65)	2.77 (0.70)	86.68***	.015	2.50 (0.68)	2.55 (0.71)	1.39	.000
Depressive symptoms	1.51 (0.57)	1.92 (0.82)	75.69***	.027	1.58 (0.59)	2.13 (0.86)	167.67***	.057	1.87 (0.79)	1.93 (0.80)	0.58	.000

Note. *M* = mean; *SD* = standard deviation; ***$p < .001$.

Table 4. *Correlations between Identity Synthesis and Confusion, and Depressive Symptoms.*

		Age group			*Z*-scores group comparisons		
Associations of depressive symptoms	Total sample	(1) Early adolescents Aged 12 to 14 (*n* = 1012)	(2) Mid-adolescents Aged 15 to 17 (*n* = 1287)	(3) Late adolescents Aged 18 to 25 (*n* = 483)	1-2	1-3	2-3
With identity synthesis	-.56***	-.55***	-.56***	-.59***	0.34	1.07	0.84
With identity confusion	.61***	.62***	.59***	.64***	1.13	-0.60	-1.50

Note. *n* = sample size; ***$p < .001$.

Figures

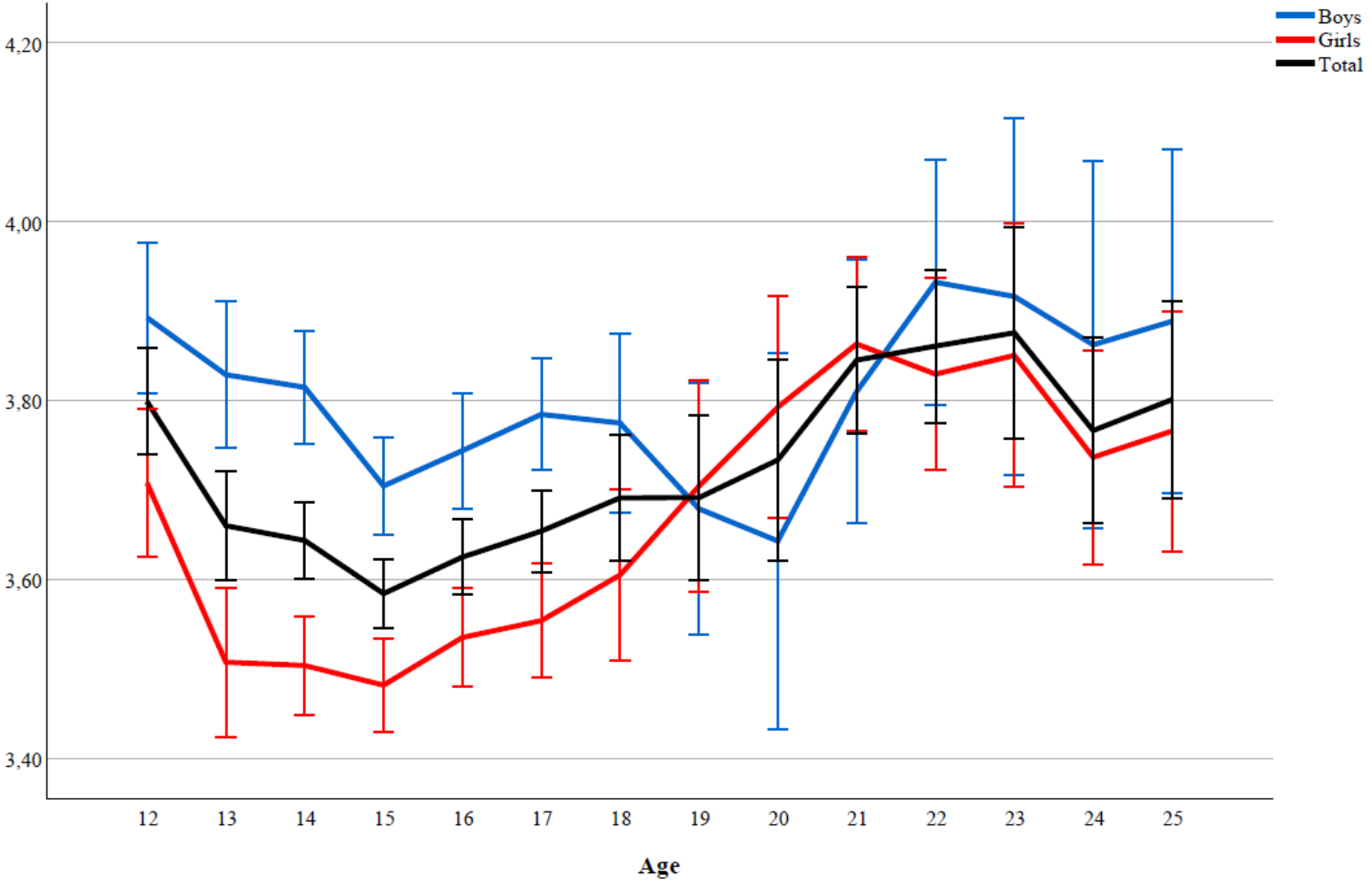

Figure 1. Observed mean scores on identity synthesis for all age cohorts for boys and girls.

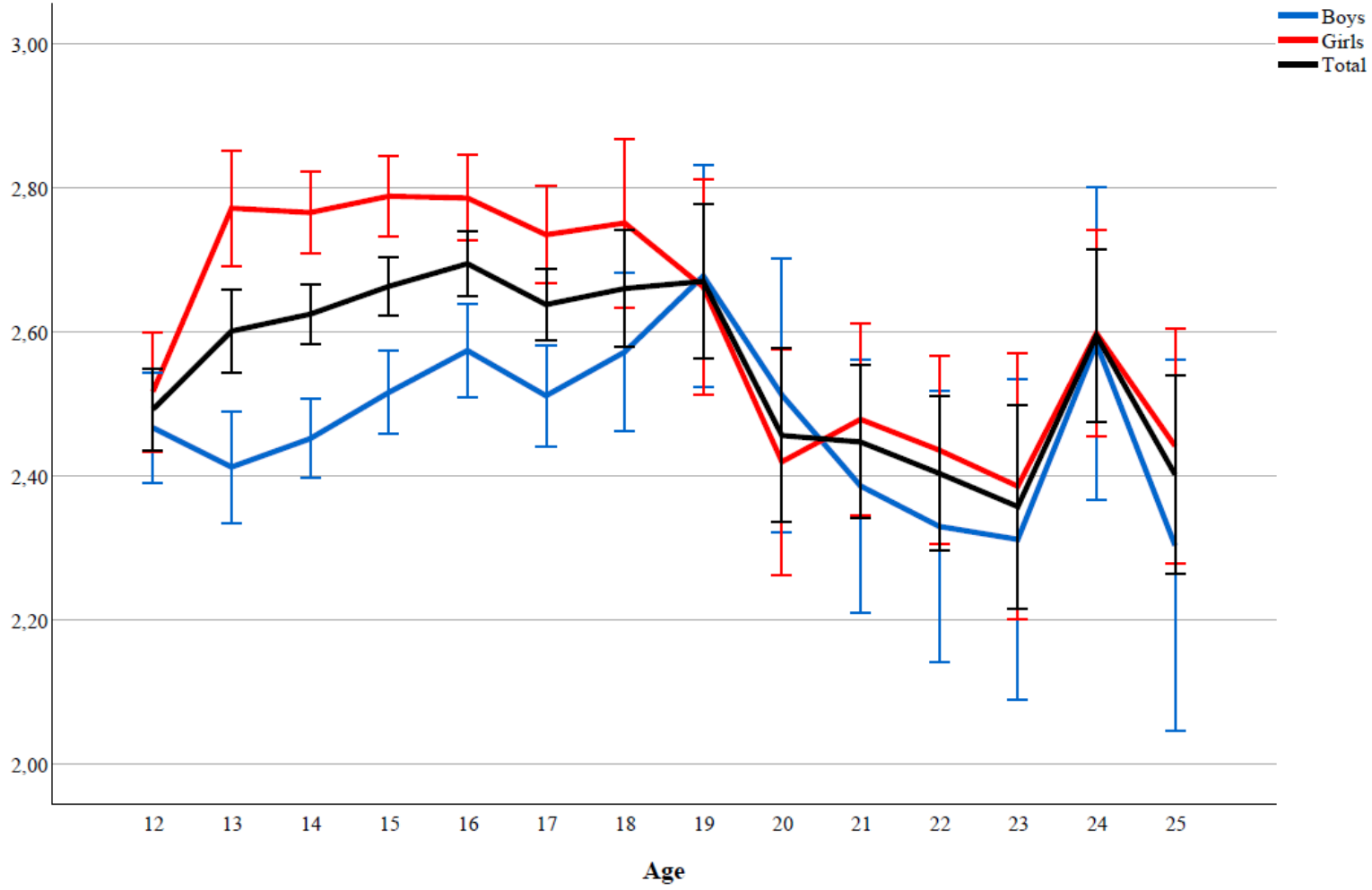

Figure 2. Observed mean scores on identity confusion for all age cohorts for boys and girls.