CrossMark

EMPIRICAL RESEARCH

I and Us: A Longitudinal Study on the Interplay of Personal and Social Identity in Adolescence

Flavia Albarello[1] · Elisabetta Crocetti[1] · Monica Rubini[1]

Abstract The development of personal and social identity is crucial in adolescence. On the one hand, adolescents face the task of forming and consolidating their personal identity in multiple domains, with educational and interpersonal domains particularly salient. On the other hand, they enlarge their social horizon and increasingly define themselves as members of multiple peer groups, such as groups of classmates and friends met outside school. There is however a lack of integrative research on the interplay among and between personal and social identity processes. Hence the purpose of this study was threefold. First, we examined how personal identity processes in the educational and interpersonal domains are associated longitudinally. Second, we investigated to what extent social identifications with classmates and with the group of friends are associated over time. Third, with an original approach we examined the longitudinal interplay between personal and social identity processes, to connect theoretical contributions that have so far proceeded largely in parallel. Participants were 304 adolescents (61.84% female, $M_{age} = 17.49$) involved in a three-wave longitudinal study. We found that (a) the ways in which adolescents develop their identity in the educational and interpersonal domains become more closely intertwined over time; (b) identifications with classmates and with the group of friends are interconnected; and (c) personal and social identity processes are associated both concurrently and longitudinally, with most cross-lagged effects showing that social identifications influence personal identity formation and consolidation in the interpersonal identity domain. Theoretical implications are discussed.

Keywords Personal Identity · Social Identity · Education · Peers · Adolescence · Longitudinal

Introduction

During adolescence, young people face a crucial task: developing their identity (Bosma and Kunnen 2008; Hewlett 2013; Jensen 2011; McLean and Syed 2014; Schwartz et al. 2011). This implies making important choices in multiple identity domains, such as in their education, interpersonal relationships, and so on (Branje et al. 2014; McLean et al. 2016) as well as defining themselves as members of meaningful social groups (e.g., Benish-Weisman et al. 2015; Brown 1990; Tanti et al. 2011). Broadly speaking, these two core issues refer to the development of personal and social identity, respectively.

So far, the bulk of adolescent identity research has been focused on the development of personal identity (for reviews see Meeus 2011; Schwartz et al. 2011) with few studies addressing the development of social identity (Tarrant 2002). Furthermore, neither in personal nor in social identity research it is yet well understood how identity development in one context is intertwined with identity development in another (i.e., How is identity development in the educational domain related to identity development in the interpersonal domain? Is social identification with one group related to social identification with another?). Moreover, it should be underscored that these research traditions

Flavia Albarello and Elisabetta Crocetti equally contributed to this work.

✉ Flavia Albarello
flavia.albarello@unibo.it

[1] Alma Mater Studiorum University of Bologna, Bologna, Italy

Springer

have proceeded in parallel, leaving the interplay of personal and social identity processes as a largely neglected issue (Vignoles et al. 2011). In this vein, to advance the theoretical understanding of the complex dynamic by which young people develop their identity, it is essential to unravel the connections among these different facets of identity. In this study we sought to address this issue by examining reciprocal longitudinal associations among and between personal and social identity processes, and considering a number of domains and groups that are salient for adolescents.

Personal Identity: Adolescent Search for and Consolidation of Meaningful Commitments

Personal identity literature focuses on the processes through which individuals develop their identity, making choices in important life domains that provide them with a sense of direction and purpose, and thus avoiding a condition of identity confusion (Erikson 1968). Various process models (for reviews see Meeus 2011; Schwartz et al. 2011) aim to explain how individuals develop their identity. In this context, the three-factor identity model has been proposed as a parsimonious approach to capture the iterative dynamic through which individuals form and change their identity over time (Crocetti et al. 2008).

This model focuses on the interplay between commitment, in-depth exploration, and reconsideration of commitment (Crocetti et al. 2008). Commitment refers to enduring choices that individuals have made about various developmental domains and to the self-confidence they derive from these choices. In-depth exploration indicates the extent to which individuals think actively about the commitments they have enacted, reflect on their choices, search for additional information, and talk with others about their commitments. Reconsideration of commitment refers to the comparison of present commitments with possible alternatives because the current ones are no longer satisfactory.

The interplay among these processes is at the basis of two identity cycles (Meeus 2011). In the identity maintenance cycle, individuals are engaged in testing (i.e., exploring in-depth) whether current commitments provide a good fit with their overall talents and potential. When this evaluation is positive it results in identity consolidation and is related to indicators of adjustment (for a review see, Crocetti 2017). In contrast, when individuals perceive present commitments as no longer appropriate for them, they may reconsider these choices in order to search for new alternatives and thus move on to the identity formation cycle. Albeit reconsidering current choices is, in the long term, functional to the individuation of more satisfying options, when it happens it is related to the experience of distress (Klimstra et al. 2010).

Importantly, identity development occurs in several domains as adolescents face the task of forming and consolidating commitments in various life contexts that are pertinent for their current experience as well as for their future plans (Erikson 1968). In this period, two core domains, educational and interpersonal, are particularly important (Bosma 1985; McLean et al. 2014). In the educational domain adolescents make significant choices when investing in one area of study and preparing themselves for their future vocation and career (Marcia 1993) and in the interpersonal domain they define their personal way of being in a relationship with significant others, such as their best friends and romantic partners (Grotevant et al. 1982).

Notably, these domains can be differentiated as "closed" and "open" (Meeus et al. 1999), according to the relative extent to which adolescents can freely explore alternative possibilities and exert influence on their commitments. For instance, in the educational domain, adolescents can perceive more external constraints limiting the extent to which they can consider and discard various educational options, whereas in the interpersonal domain they can encounter more opportunities for change, that is, they may find relatively more available alternatives, freely explore them, and also change when the previous choices are not satisfactory anymore. Thus, the educational and interpersonal domains can be conceived as relatively closed and open, respectively (Becht et al. 2016; Klimstra et al. 2010).

Prior research has suggested that the formation of identity can differ across identity domains (e.g., Goossens 2001). While some adolescents can approach various domains in a similar way (e.g., enacting stable commitments in educational and interpersonal domains), others may invest in only one or a few domains (e.g., achieving identity stability in the educational domain but not in the interpersonal domain; Bosma 1985; Fadjukoff et al. 2005; Luyckx et al. 2014). The process behind these different identity configurations (Crocetti et al. 2012) is still understudied because, even when studies adopted a domain-specific approach to identity development, by considering both educational and interpersonal domains, they mainly examined them separately (Becht et al. 2016; Klimstra et al. 2010). Building upon this evidence, an important further step would be to unravel how identity development in one domain is intertwined with identity development in another domain. In this study, we addressed this issue by examining the interplay among identity processes in the educational and interpersonal domains. We also sought to understand how these personal identity processes are intertwined with social identity processes.

Social Identity: Adolescent Identification with Salient Social Groups

Social identity definition is another crucial task during adolescence (Brown 1990; Tarrant 2002). Social identity theory (Tajfel and Turner 1979) emphasizes that belongingness to a group affects self-definition and that social identity is the part of an individual's self-concept which derives from the awareness of this membership, together with its evaluation and emotional meaning. In this perspective, people strive to achieve and maintain positive self- (and group) evaluation. This motivational factor drives social comparisons between in-groups (i.e., the groups to which one belongs) and out-groups (i.e., external groups to which the individual does not belong).

Social identification (i.e., the sense of emotional commitment to one's social groups; Ellemers et al. 1999) is a crucial social identity process that determines the extent to which an individual behaves in accordance with the social categories to which he/she belongs (cf. Turner et al. 1987). In other words, social identification is the means through which the group becomes important in the person's mind and it has important implications for individual adjustment (e.g., self-esteem) and intergroup relationships (e.g., in-group favoritism, stereotyping). This has also been confirmed by the few studies that consider social identification in adolescence (Tanti et al. 2011; Tarrant et al. 2001). For instance, Benish-Weisman et al. (2015) examined the role of accumulative identifications (i.e., having a great number of identifications) and found that adolescents with high levels of identifications with at least two groups had higher levels of self-esteem than low identifiers. Moreover, Knifsend and Juvonen (2013, 2014) showed that complex social identity (i.e., perceiving low overlap among the multiple social groups to which one belongs) is related to positive intergroup attitudes. Thus this evidence points to the crucial role of social identification for understanding adolescent behavior.

Adolescents are members of various social groups. Among these, peer groups assume increasing importance as adolescents start to spend more and more time in activities outside family (Brown 2004). In this vein, peer groups emerge as "social laboratories" (Sherif and Sherif 1964) in which young people can experiment themselves, activate processes of social comparisons (Brown and Larson 2009; Hartup 2005; Palmonari et al. 1992), and receive support (Helsen et al. 2000). There is also consistent evidence that highlights how identification with peer groups promotes the ability to cope with developmental problems (e.g., Palmonari et al. 1990). In view of this, it is clear that identification with peer groups appears an important resource for adolescent psychosocial adjustment (cf. Brown and Larson 2009 for a review).

Among the various peer groups to which adolescents belong, two are very salient (cf. Brown and Larson 2009; Palmonari et al. 1991) and affect most of adolescent experience: the group of classmates, who are not chosen, but met on a daily basis in the institutional context of school (i.e., a fundamental domain where young people develop their orientation towards institutions; Rubini and Palmonari 2006), and the group of friends outside school, who are reciprocally chosen and with whom adolescents share a substantial part of their leisure time (Brown and Larson 2009). Considering the crucial role that the groups of classmates and friends play and the importance of identification with social groups in guiding individual cognition and behavior, it is necessary to understand to what extent belongingness to these two groups is subjectively meaningful for adolescents and how identification with one group is related to identification with the other. Notably, it is important to investigate how identification with these two groups is associated with development of personal identity, the other key developmental task adolescents face.

Are Personal and Social Identity Intertwined?

To date, literature on adolescent psychosocial development has been mainly focused on the role of personal identity, leaving less explored the role of social identity. Furthermore, these components of identity have mainly been investigated in isolation (Vignoles et al. 2011). Personal identity has been regarded in terms of adolescent choices in important life domains (e.g., being a student or a worker), while social identity in terms of social categorizations deriving from group membership (e.g., being Italian, being a Black person). Therefore, one of the main neglected issues to address is shedding light on how personal and social identity processes might interact.

Theoretically, it is possible to consider interrelations between personal and social identity processes. On the one hand, personal identity processes are embedded in the social context. Adolescents' belongingness to meaningful social groups can provide them with a preliminary set of identity alternatives that can be critically and mindfully chosen or abandoned to search for more appealing possibilities (Crocetti et al. 2017). In this vein, individuals' in-depth exploration of current commitments and exploration of other commitments are likely to involve processes of social comparison with both members of the in-group (to evaluate how good current commitments are) and the out-group (to consider possible alternatives). That is, when exploring personal identity options, adolescents can rely on the evaluations and choices of others (both in-groupers and out-groupers) in order to make decisions for themselves.

On the other hand, personal identity processes can reinforce identification with social groups. When adolescents

make personal identity choices they are likely to implement them in groups where they can share these choices with significant others (cf. Crocetti et al. 2014). For instance, strong educational commitment can increase identification with the group of classmates. In other words, the fact that all classmates made similar educational choices can work as a dimension of social categorization (e.g., being students of a specific school) that in turn enhances the identification with them. Similarly, a steady interpersonal commitment can augment identification with the group of friends, since the individual can extend the positive evaluation of the relation with the best friend to the group to which they both belong, thus strengthening the affective, cognitive, and evaluative (cf. Ellemers et al. 1999) components of social identification with the group of friends.

Thus, based on this reasoning, personal identity processes can be intertwined with social identification in such a way that commitment and in-depth exploration might be positively associated, whereas reconsideration of commitment would be negatively associated with identification with one's own group. This interplay might be particularly evident in contiguous domains/contexts (i.e., educational identity and identification with classmates; interpersonal identity and identification with friends). This is consistent with Tajfel and Turner's (1979) theory that personal and social identity are the two poles of the continuum along which individuals self-define and behave depending on contextual requirements (Turner et al. 1987).

The Current Study

In line with the current state of adolescent identity literature, the purpose of this longitudinal study was to provide new evidence in order to unfold longitudinal associations *among* and *between* personal and social identity processes. We examined personal identity processes (Crocetti et al. 2008) in two identity domains (educational and interpersonal identity) and social identification (Tajfel and Turner 1979; Thomas et al. 2017) with two peer groups (classmates and friends) that are very significant to adolescent life (see Fig. 1). Our overall goal was to highlight how processes of personal and social identity in relation to multiple domains/groups are connected over time, by addressing these three specific aims.

First, we examined how personal identity processes (i.e., commitment, in-depth exploration, and reconsideration of commitment) in the educational domain are longitudinally related to processes in the interpersonal domain. In this way, we sought to go beyond the available literature by highlighting how identity dynamics in one domain are related over time to identity dynamics in another. When adolescents grow older they should increase their capacity
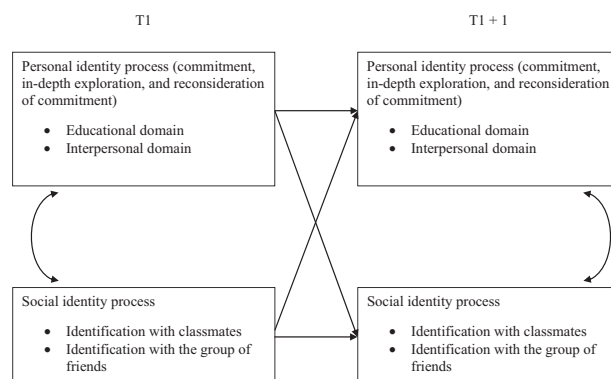

Fig. 1 Schematization of the tested model. *T* time

to deal with multiple identity domains (e.g., Crocetti et al. 2012) and this might imply stronger associations among processes operating in distinct contexts. These associations can assume different forms (Goossens 2001): adolescents can approach two identity domains in a similar way (this would result in positive links between corresponding processes; e.g., commitment in the educational domain and in the interpersonal domain) or adopt different strategies (e.g., increasing commitment in one domain while reconsidering their commitment in another). Based on this reasoning, we expected that identity formation processes in the educational and interpersonal domains would over time become increasingly intertwined and the pattern of connections among these processes would show both convergent and diverging pathways.

Second, we analyzed how social identification with classmates is longitudinally related to social identification with the group of friends. It is important to address this issue in order to more fully understand the extent to which social experiences of adolescents in multiple peer contexts are related over time. From early adolescence, group membership becomes increasingly crucial for individuals (Brown 1990), adolescents are able to differentiate between the various groups to which they belong, and to better evaluate which groups are personally important to them (Benish-Weisman et al. 2015; Knifsend and Juvonen 2013, 2014; Tanti et al. 2011). Based on this, we expected identification with classmates and identification with the group of friends to be positively, but moderately, associated over time.

Third, we tackled the major study goal of shedding new light on how personal and social identity processes are related to each other over time. Drawing on the theoretical considerations already discussed, we expected to find bidirectional associations between them. More specifically, we anticipated meaningful "context specific" associations (cf. Turner et al. 1987) highlighting that personal identity processes in the educational domain would be mainly

interrelated with social identification with classmates, whereas personal identity processes in the interpersonal domain would be primarily linked to social identification with the group of friends. In both contexts we expected that commitment and in-depth exploration would be positively related to identification, while reconsideration of commitment would be negatively related to it. These associations were expected to operate both concurrently and longitudinally.

Method

Participants

Participants were 304 adolescents (61.84% female; $M_{age} = 17.49$, $SD_{age} = 0.79$) attending the last 2 years (i.e., 11th and 12th grades) of secondary high schools in the North–East of Italy. Most of the participants were Italian (95.06%). Among the non-Italian participants, the majority (4.29%) came from Eastern European countries. In terms of family structure, 75.08% came from two-parents families, 18.61% reported that their parents were separated or divorced, and 6.31% reported other family situations (e.g., one deceased parent). Most adolescents (97.35%) were living with one or both parents, while 2.65% were living with other relatives (e.g., grandparents). The educational level of the adolescents' fathers was low (i.e., less than high school diploma) for 46.47%, medium (i.e., high school diploma) for 43.43%, and high (i.e., university degree) for 10.10%. The educational level of the participants' mothers was low for 34.00%, medium for 53.33%, and high for 12.67%.

Sample attrition was 0.98% across the three waves. The results of Little's (1988) Missing Completely at Random (MCAR) test yielded a normed χ^2 (χ^2/df) of 1.10, indicating that data were likely missing at random. Therefore, all participants were included in the analyses and missing data were handled with the Full Information Maximum Likelihood procedure available in M*plus* (Kelloway 2015).

Procedure

The study was approved by the Ethics Committee of the Alma Mater Studiorum University of Bologna (Italy). Prior to initiating the study, we obtained permission from the school principal to administer a questionnaire during class time. Then we contacted all adolescents attending the 11th and 12th grades in order to present the study and ask for their active consent to participate. They received oral and written information about the study and were asked to sign the informed consent form. For minors, parental consent was also obtained. Almost all (99.35%) approached students agreed to participate in the study. All data were collected throughout one academic year, with an interval of 3 months between measurements (i.e., first week of November 2016; first week of February 2017; first week of May 2017). At each point, the adolescents completed the same paper-and-pencil questionnaire in their classrooms, during school hours. Each participant generated a unique code to ensure confidentiality. Participation in the study was voluntary. At each wave students could choose not to fill in the questionnaires and do other school activities instead.

Measures

Personal identity processes

Commitment, in-depth exploration, and reconsideration of commitment in the educational and interpersonal identity domains were measured with the Utrecht-Management of Identity Commitments Scale (U-MICS; Crocetti et al. 2008; Italian validation by Crocetti et al. 2010, 2015). The U-MICS consists of 26 items with a response scale ranging from 1 (*completely untrue*) to 5 (*completely true*). Thirteen items index the target processes in the educational domain and 13 items index the target processes in the interpersonal domain (friendship). Sample items include: "My education/ The relationship with my best friend gives me certainty in life" (commitment; 5 items for each domain), "I think a lot about my education/relationship with my best friend" (indepth exploration; 5 items for each domain), and "I often think it would be better to try to find a different education/ best friend" (reconsideration of commitment; 3 items for each domain). Cronbach's Alphas are reported in Table 1.

Social identity processes

Participants' identification with their classmates and with the group of friends was assessed with the Group Identification scale (for English and Italian versions, see Thomas et al. 2017). This measure consists of 6 items with a response scale ranging from 1 (*completely untrue*) to 5 (*completely true*) that were repeated twice, for the two groups. A sample item is: "Belonging to the group of my classmates/friends is very important for who I am".

Results

Preliminary Analyses

Means, standard deviations, and reliabilities for all the study variables are reported in Table 1. Correlations among study variables are displayed in Table 2.

Table 1 Means (M), standard deviations (SD), and reliabilities (α) of study variables

	T1			T2			T3		
	M	SD	α	M	SD	α	M	SD	α
Educational identity									
Commitment	2.89	0.79	.87	2.95	0.83	.90	2.92	0.82	.91
In-depth exploration	3.02	0.67	.72	2.95	0.73	.77	2.93	0.66	.75
Reconsideration of commitment	3.20	0.97	.81	3.24	0.95	.84	3.11	0.92	.77
Interpersonal identity									
Commitment	3.62	0.80	.90	3.56	0.80	.91	3.53	0.83	.91
In-depth exploration	3.37	0.69	.68	3.31	0.73	.76	3.21	0.74	.76
Reconsideration of commitment	1.72	0.87	.88	1.71	0.83	.91	1.88	0.96	.93
Social identity									
Identification with classmates	2.95	0.71	.85	2.86	0.75	.87	2.85	0.83	.89
Identification with the group of friends	4.09	0.64	.85	4.01	0.67	.86	3.89	0.71	.88

T time

Cross-Lagged Analyses

The overall purpose of this study was to examine reciprocal associations among and between personal and social identity processes. In order to reach this goal, we conducted cross-lagged analyses in M*plus* 8 (Muthén and Muthén 1998-2017), using the Maximum Likelihood Robust (MLR) estimator (Satorra and Bentler 2001).[1] Specifically, we tested (a) cross-lagged paths controlling for (b) stability paths, and (c) within-time correlations among all variables. To model the longitudinal associations as parsimoniously as possible, we tested whether cross-lagged effects (from T1 to T2 and from T2 to T3) and T2–T3 within-time correlations (correlated changes) were time-invariant. To this end, we compared the baseline unconstrained model (M1) with the model assuming time-invariance of cross-lagged associations (M2), and time invariance of both cross-lagged effects and T2–T3 within-time correlations (M3). To evaluate the model fit as well as to conduct model comparisons we relied on multiple criteria. More specifically, to assess the model fit we considered the Comparative Fit Index (CFI), with values higher than .90 indicative of an acceptable fit and values higher than .95 suggesting an excellent fit, and the

Root Mean Square Error of Approximation (RMSEA), with values below .08 indicative of an acceptable fit and values less than .05 representing a very good fit (Byrne 2012). To determine differences between models, at least two out of these three criteria had to be matched: $\Delta\chi^2_{SB}$ significant at $p < .05$ (Satorra and Bentler 2001), $\Delta CFI \geq -.010$, and $\Delta RMSEA \geq .015$ (Chen 2007).

Results (see Table 3) highlighted that the more parsimonious model assuming time invariance of both cross-lagged effects and correlated changes (M3) fit the data very well and did not differ from prior models. Thus, we could retain this model as the final one and further inspect main results.[2] Cross-lagged paths and within-time correlations are displayed in Fig. 2, and stability paths are reported in Table 4.

For what regards *cross-lagged effects*, we found several significant paths. As for personal identity processes, in the educational domain we found bidirectional associations between commitment and in-depth exploration (that reinforced each other over time) and between commitment and reconsideration of commitment (that lessened each other

---

[1] As a preliminary step, we tested longitudinal measurement invariance to establish whether the measurement model with 8 latent variables (educational commitment, in-depth exploration, and reconsideration of commitment; interpersonal commitment, in-depth exploration, and reconsideration of commitment; social identification with classmates and with the group of friends) for each wave (for a total of 24 latent variables) and single items as observed indicators was invariant across time. To this end, we compared the configural (baseline) model with the metric model, in which factor loadings were constrained to be equal across time. Model comparisons, conducted considering changes in fit indices (e.g., Chen 2007), indicated that metric invariance could be clearly established. Therefore, we could reliably proceed with analyses aimed at unveiling over time associations among all study variables (Little 2013).

[2] As ancillary sensitivity analyses we checked whether our findings were replicated across gender subgroups. To this end, we ran the model for boys and girls separately and we compared this unconstrained model with models in which cross-lagged paths ($\Delta\chi^2_{SB} = 66.923$, $\Delta df = 57$, $p = .173$, $\Delta CFI = -.004$, $\Delta RMSEA = -.003$), T1 correlations ($\Delta\chi^2_{SB} = 40.085$, $\Delta df = 28$, $p = .065$, $\Delta CFI = -.004$, $\Delta RMSEA = -.001$), and T2–T3 correlations ($\Delta\chi^2_{SB} = 68.558$, $\Delta df = 28$, $p = .000$, $\Delta CFI = -.015$, $\Delta RMSEA = .004$) were constrained to be equal across gender groups. Model comparisons indicated that cross-lagged effects and T1 correlations were similar across gender groups, while there were significant gender differences between T2–T3 correlations. Follow-up pairwise comparisons conducted with the Wald test revealed that only 3 out of 28 correlations were significantly different ($p_s < .05$) across gender groups: in-depth exploration and reconsideration of commitment (both within and across educational and interpersonal domains) were positively and significantly related only in boys, while they were not significantly related in girls.

over time). In the interpersonal domain, we found that in-depth exploration increased commitment over time. Importantly, cross-lagged effects between personal and social identity processes highlighted that social identity had stronger effects on personal identity than the other way around. In fact, identification with classmates increased over time both interpersonal commitment and interpersonal in-depth exploration, and identification with the group of friends increased later levels of interpersonal commitment and lessened interpersonal reconsideration of commitment. On the other side, interpersonal commitment bolstered identification with the group of friends.

Concerning significant *within-time correlations at T1*, results indicated that educational commitment was positively correlated with educational in-depth exploration and negatively with reconsideration of commitment. The same pattern of correlations was found also for interpersonal identity processes. Additionally, educational in-depth exploration was positively related to interpersonal in-depth exploration. Furthermore, identification with classmates and with the group of friends were positively interrelated. Notably, identification with classmates was positively linked to educational commitment and in-depth exploration, while identification with the group of friends was positively related to interpersonal commitment and in-depth exploration, and negatively associated with reconsideration of commitment.

All significant *within-time correlations* found at T1 were also confirmed *at T2–T3*, with only one exception (the correlation between educational in-depth exploration and identification with classmates that was not significant at T2–T3). Remarkably, in addition to these links we found a number of other significant correlated changes that highlighted associations between educational and interpersonal identity processes. Specifically, at T2–T3, in addition to exploration processes also commitment processes were positively interrelated. Furthermore, educational commitment and in-depth exploration were positively associated with interpersonal reconsideration of commitment, and educational reconsideration of commitment was positively linked to interpersonal commitment and in-depth exploration. Finally, educational reconsideration of commitment was positively related to identification with the group of friends. Overall, the findings support our expectations that personal and social identity processes are interrelated and that intersections between different domains become increasingly strong over time.

Discussion

In adolescence, young people face the challenging task of forming and consolidating their identity in multiple domains as well as defining their membership of meaningful social groups (Brown 1990; Meeus 2011). However, these two aspects, which refer to how people develop their personal and social identities respectively, have been studied in

Table 2 Within-time bivariate correlations between personal and social identity processes

Personal identity	Social identity	
	Identification with classmates T1/T2/T3	Identification with the group of friends T1/T2/T3
Educational domain		
Commitment	.21***/.20***/.24***	−.01/.14*/.01
In-depth exploration	.15*/.07/.07	−.00/.02/−.06
Reconsideration of commitment	−.09/−.03/−.05	−.02/.05/.03
Interpersonal identity		
Commitment	.10/.18**/.17**	.41***/.52***/.61***
In-depth exploration	.08/.10/.20***	.17**/.34***/.31***
Reconsideration of commitment	−.02/−.03/.09	−.36***/−.25***/ −.39***

T time

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

Table 3 Cross-lagged models: model fit indices and model comparisons

Models	Model fit				Model comparison				
	χ^2_{SB}	df	CFI	RMSEA [90% CI]	Models	$\Delta\chi^2_{SB}$	Δdf	p	ΔCFI	ΔRMSEA
M1: Baseline model	164.047	64	.961	.072 [.058, .085]					
M2: Model with cross-lagged paths fixed to be time-invariant	236.086	120	.954	.056 [.046, .067]	M2-M1	69.686	56	.103	−.007	−.016
M3: Model with cross-lagged paths and T2–T3 correlations fixed to be time-invariant	274.281	148	.950	.053 [.043, .063]	M3-M2	38.648	28	.087	−.004	−.003

χ^2_{SB} Satorra-Bentler scaled chi-square, *df* degrees of freedom, *CFI* comparative fit index, *RMSEA* root mean square error of approximation and 90% confidence interval, Δ change in parameter

Fig. 2 Significant standardized results of the cross-lagged model linking personal and social identity processes. For sake of clarity, stability paths are not reported. Since the model with time-invariant coefficients was retained as the final one, we present only two time points (T1, T2, and T3), and cross-lagged paths and T2–T3 correlations displayed represent the averaged standardized coefficients. *p < .05; **p < .01; ***p < .001
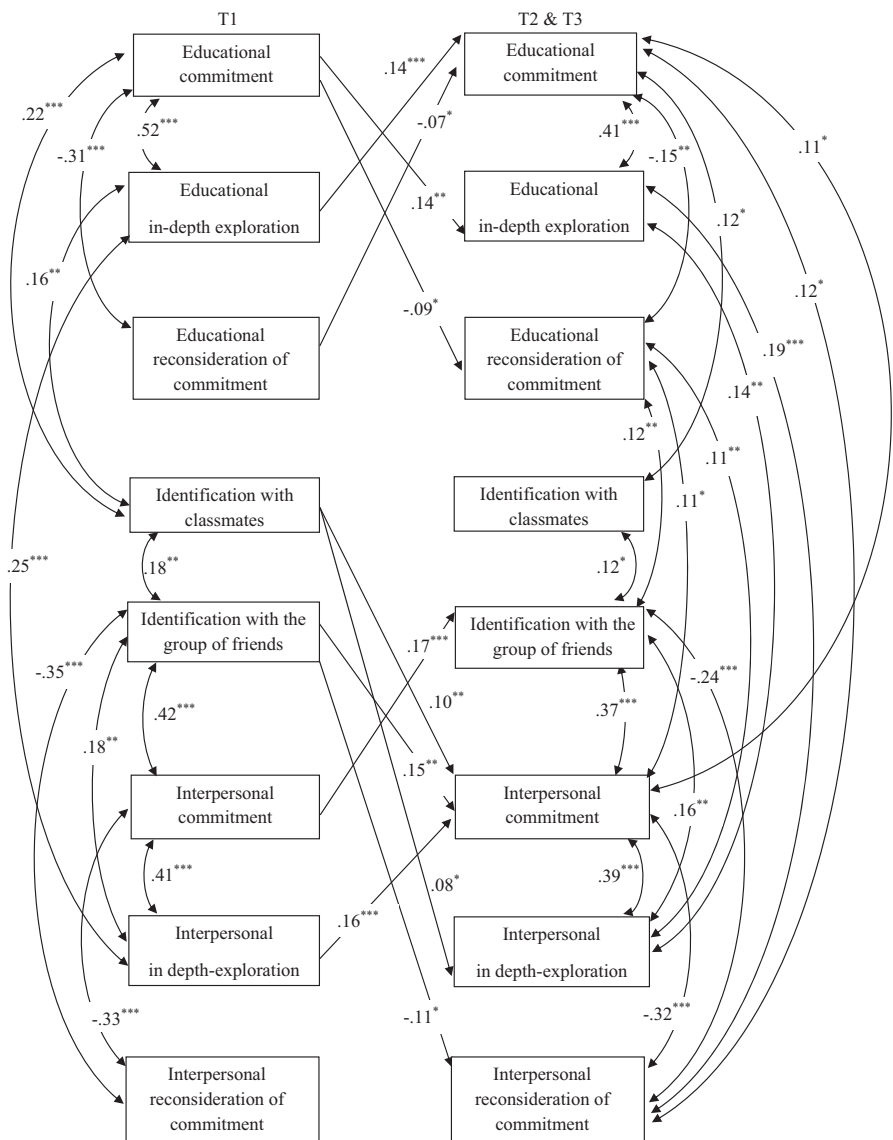

Table 4 Stability paths

	T1 → T2	T2 → T3
Educational identity		
Commitment	.58***	.60***
In-depth exploration	.63***	.61***
Reconsideration of commitment	.59***	.61***
Interpersonal identity		
Commitment	.40***	.44***
In-depth exploration	.58***	.60***
Reconsideration of commitment	.43***	.43***
Social identity		
Identification with classmates	.73***	.74***
Identification with the group of friends	.50***	.51***

T time

***p < .001

parallel leaving their interplay almost unexplored (Vignoles et al. 2011). The current longitudinal study addressed this key theoretical issue by examining reciprocal associations *among* and *between* personal identity processes (commitment, in-depth exploration, and reconsideration of commitment in the educational and interpersonal domains; Crocetti et al. 2008) and social identity processes (social identification with classmates and the group of friends; Tanti et al. 2011). The findings provided novel evidence highlighting that: (a) the ways in which adolescents develop their identity in the educational and interpersonal domains become more closely intertwined over time; (b) identifications with classmates and with the group of friends are interconnected over time; and (c) personal and social identity processes are associated concurrently and longitudinally, with most cross-lagged effects showing that social identity processes influence personal identity

formation and maintenance in the interpersonal identity domain. Overall, this study contributes substantially to enhancing our theoretical understanding of the distinction between "closed" and "open" domains of identity and, notably, points to the interplay of personal and social facets of identity.

Linking Personal Identity Processes in the Educational and Interpersonal Domains

In this study we uncovered how personal identity processes (cf. Crocetti et al. 2008) are intertwined both within and between two domains (educational and interpersonal; Becht et al. 2016; Klimstra et al. 2010). First, focusing on effects *within identity domains*, we found that commitment was positively related to in-depth exploration and negatively linked to reconsideration of commitment, whereas in-depth exploration and reconsideration of commitment were not significantly related. This pattern of associations was consistent, as it was noted for both domains, at the beginning of the study (within-time associations at T1) and also over time (correlated changes at T2 and T3). These findings were further confirmed by the bidirectional cross-lagged paths (found especially in the educational domain). Overall, this evidence suggests that by late adolescence, the cycles of identity formation (based on the interplay between commitment and reconsideration of commitment) and identity maintenance (based on the interplay between commitment and in-depth exploration) become more differentiated in both domains (Crocetti et al. 2015; Meeus 2011).

A second major finding was that at the beginning of the study interrelations between identity in the educational and interpersonal domains were limited (at T1 only in-depth exploration processes were associated) whereas they increased substantially over time. In fact, at T2 and T3, changes in processes in the educational domain were strongly intertwined with changes in processes in the interpersonal domain and vice versa. These findings indicate that, in line with our expectations, the way in which adolescents develop identity in one domain over time becomes increasingly intertwined with the way they develop their identity in another.

Thus, this evidence enriches our developmental understanding of mechanisms behind different identity configurations (Luyckx et al. 2014). On the one hand, we found positive associations between similar processes operating in both domains (positive associations between educational and interpersonal commitment, and between educational and interpersonal in-depth exploration). These results suggest that adolescents can approach identity formation in different domains in a similar way and explain why, with age, an increasing number of individuals achieve a

condition of identity stability in multiple domains (Crocetti et al. 2012). On the other hand, we found additional associations showing that adolescents might undertake different pathways in distinct domains: identity maintenance in one domain was also positively related to reconsideration of commitment in the other domain. This indicates that when adolescents invest in one domain, so consolidating their choices, they might give up commitment in another. This is in line with studies highlighting that most young people still show divergences in the way they develop their identity across different domains, although the number decreases with age (Fadjukoff et al. 2005; Goossens 2001; Luyckx et al. 2014). Taking all these considerations into account, we can conclude that the way in which adolescents develop their identity in one domain becomes increasingly intersected with how they approach other domains. This is consistent with adolescents' increased cognitive ability (cf. Kuhn 2009) to differentiate among various domains and to deal with them in a complex and articulated way.

Unravelling Associations Between Social Identification with Different Peer Groups

In this study, we also considered how social identity processes in different domains interact. The findings confirmed our expectation that identifications with classmates and with the group of friends are related over time. This is in line with psychosocial literature suggesting that, with age, adolescents become cognitively more capable of dealing with multiple social identifications, differentiating between groups, and thinking more thoroughly about which group is personally important to them (Tanti et al. 2011). If we look at the strength of the association between the two identifications (moderate) and at the mean scores (substantially higher for identification with the group of friends), it is clear that the two groups are not the same for the participants and that the group of friends is more affectively important to them. This might be explained by considering that whereas classmates are imposed by the school system, friendship groups are reciprocally chosen and characterized by similarity and mutual influence (Brown and Larson 2009; Brandstätter et al. 1991). Overall, these findings highlight that adolescents have related but distinct experiences with the specific peer groups to which they belong.

The importance of this evidence can be further understood when we consider the benefits of individuals' ability to define themselves and others in terms of multiple group memberships. In fact, achieving a complex social identity on which people rely on multiple categorizations is a powerful way to reduce prejudice and improve intergroup relationships, as demonstrated both in adolescence (Knifsend and Juvonen 2013, 2014) and in other later phases of

life (Albarello et al. 2017; Albarello and Rubini 2012; Prati et al. 2016a, b). Thus, fostering adolescents' ability to acknowledge multiple group experiences should have significant implications for the promotion of social inclusiveness in increasingly multicultural societies.

The Interplay of Personal and Social Identity

Apart from analyzing the interconnections among personal identity processes in different domains and between various social identifications, this study provided pivotal insights into how personal and social identity processes interact in adolescence. In this way it goes beyond the prior literature by revealing how personal and social identity processes are intertwined both concurrently and longitudinally. This is a major step towards integrating research traditions that have until now remained fairly independent of each other (cf. Vignoles et al. 2011).

Baseline correlations and correlated changes highlighted that identification with classmates was mostly related to personal identity processes in the educational domain (especially commitment), while identification with the group of friends was mainly linked to personal identity processes in the interpersonal domain (positive association with commitment and in-depth exploration and negative association with reconsideration of commitment). In line with our expectations, these findings shed light on how personal and social identity processes were interconnected in neighboring domains/contexts. This evidence is consistent with the notion that social identities become meaningful ways of self-definition and affect individual cognition and behaviors when they are cognitively accessible and subjectively perceived as situationally pertinent (cf. Turner et al. 1987). It also indicates that personal commitments are strongly embedded in social groups where these choices can be implemented, validated, and shared (Crocetti et al. 2014; Palmonari et al. 1992).

The analysis of cross-lagged effects provided crucial new elements to reveal the pattern of associations between personal and social identity processes. We found significant cross-lagged paths from both identification with classmates and with the group of friends to personal identity processes in the interpersonal domain. Specifically, identification with classmates was related to processes at the basis of the identity maintenance cycle (commitment and in-depth exploration) while identification with the group of friends was linked to processes at the basis of the identity formation cycle (commitment and reconsideration of commitment; Meeus 2011). If this suggests that context-specific social identifications (cf. Turner et al. 1987) might be implied in different developmental processes, it also provides a more nuanced picture of how the interplay of personal and social identity unfolds longitudinally: while peer interactions in

the school context mainly lead to the consolidation of interpersonal identity, contacts with the group of friends outside school are more implicated in the formation and change of interpersonal identity. This evidence is intriguing as it suggests that experiences in distinct peer groups affect the ways in which adolescents develop their interpersonal identity in dyadic relationships.

The findings showing that social identification with both groups leads to relative changes in personal identity processes only in the interpersonal (not in the educational) domain can be further interpreted by considering the distinction between closed and open domains (Meeus et al. 1999). If educational identity is a relatively more "closed" domain, in which adolescents might experience external constraints limiting their range of opportunities for identity change (cf. Becht et al. 2016; Klimstra et al. 2010), interpersonal identity can be considered an "open" domain, where adolescents have relatively more alternatives to explore, so they can more easily engage in commitment and reconsideration processes (i.e., the certainty-uncertainty dynamic; Klimstra et al. 2010). Thus, effects of social identity are more evident in personal identity domains where individuals can exert a stronger personal control over their choices. Overall, this evidence suggests the utility of considering which pathways apply in a similar way to different identity content domains and which can be domain-specific (e.g., McLean et al. 2014).

Notably, although we expected cross-lagged associations between personal and social identity to be mainly bidirectional, we found evidence of bidirectionality only between identification with the group of friends and interpersonal commitment, which reinforced each other over time. This result showing bidirectionality indicates that, on the one hand, the emotional tie to the group of friends sustains enactment of meaningful identity commitments, and, on the other hand, these commitments can be implemented in a group where they can be shared with significant others. This bidirectional longitudinal finding complements prior cross-sectional evidence showing that in adulthood achieving a stable job identity commitment is positively related to identification with the group of coworkers and with the organization in which a person is employed (Crocetti et al. 2014).

While acknowledging this bidirectional effect between personal and social identity, it is worth underscoring that most cross-lagged paths highlighted that the direction of observed influence was mainly from social identity to personal identity. Importantly, this indicates that in this life phase meaningful social identifications with peer groups, which are main sources of support for facing the multiple developmental tasks of adolescence (Palmonari et al. 1992), offer a "symbolic arena" for developing personal identity in interaction with the social context. Peer groups set a context

in which individuals can try out different roles, test their competences and abilities, and explore value and normative systems (Hartup 2005; Palmonari et al. 1990, 1992; Tarrant 2002), and so provide a basis for forming (through the dialectic between commitment and reconsideration of commitment) and consolidating (by means of validation of choices that have been made) personal identity. This is indeed a very intriguing finding which shows the primary role of peer groups in affecting personal identity development, at least in the interpersonal domain. Thus, we can conclude that this evidence provides new insights into identity development-in-context (Bosma and Kunnen 2008) and opens new avenues of research for examining the interconnection of social and personal identity processes during adolescence.

This evidence has also important practical implications, since it suggests that peer groups might be a resource for adolescents' psychosocial development and well-being. In this vein, interventions involving young people and their peers (e.g., classmates, friends) might be designed in order to translate positive social identity benefits into personal identity development. Positive intragroup interactions might strengthen in-group identification, as well as other intragroup processes such as perceived entitativity (i.e., the extent to which the group is perceived by the individual as real; Hamilton et al. 1998) or perceived interdependence (e.g., feeling on being in the same boat; Lewin 1948). In turn, as the current study suggests, a strong sense of connection with peer groups can support development of personal identity, which has also strong implications for well-being and adjustment (e.g., Crocetti 2017; Meeus 2011).

Limitations and Suggestions for Future Research

This study should be considered in light of some limitations that can suggest directions for future research. First, all identity processes considered in this study were assessed by means of questionnaires. Although these measures are valid instruments for assessing internal processes, future studies are needed to test whether current findings can be replicated by using multiple methodological approaches (e.g., McLean et al. 2014).

Second, in this study we focused on identity domains (educational and interpersonal) and social groups (classmates and friends) that are very salient for adolescents. Future studies could broaden our understanding of the interplay of personal and social identity by considering other domains and groups. For instance, how does the interplay of personal and social identity unfold if we consider domains and groups that usually attract only a minority of adolescents (e.g., identity issues related to political choices and memberships; e.g., McLean et al. 2014)?

Third, for the time frame of the current study we examined one academic year (with 3 months interval between each wave). Future studies might investigate how associations between personal and social identity processes unfold over a longer period, especially focusing on what happens when adolescents undergo major transitions, when they might question their prior choices and leave extant social groups to approach new life conditions. For instance, the school-to-work transition might imply substantial changes in both personal and social identity.

Fourth, it should be acknowledged that the sample size was adequate, but modest, and participants were living in a specific geographical region. Thus, current results may not be fully generalized to youth from other cultural contexts. For instance, participants in the present study were attending the entire academic year with the same classmates, since the Italian school system is organized in classes in which all students attend the same lectures. In another context, in which the educational setting is organized differently with students having the possibility to choose to a certain extent which lectures to attend, identification with classmates may be lower and less influential. Cultural differences might also apply to the importance of the group of friends outside school, depending on the amount of time adolescents have at disposal outside such institutional context, as well as on the extent to which society's cultural orientation strengthens the individual or the group as the core of social relations (e.g., Triandis 2001). It might be that in more individualistic societies adolescents rely to a lesser extent on their peers as a source of support or as a reference point (Arnett 2012).

Conclusion

This study considered the underexplored issue of how personal and social identity processes interact during adolescence. The findings highlighted that identity development in educational and interpersonal domains becomes increasingly intertwined over time and that social identification with classmates is moderately related to social identification with the group of friends. Notably, personal and social identity processes were associated both concurrently, with meaningful context-specific associations, and longitudinally, with predominant effects of social identifications on later personal identity formation and consolidation in the interpersonal identity domain. This evidence, thus, highlighted a multi-faceted nature of identity development in adolescence, being both an individual and a social process.

Overall, this study goes beyond extant knowledge by providing new insights into the development of personal and social identity and the interplay between them. This novel evidence contributes to our understanding of the

distinction between open and closed identity domains, and to building a bridge between theoretical frameworks that have long been tackled in isolation. In this vein, it also suggests that social identifications might be a resource in achieving personal adjustment in adolescence. This further strengthens the notion that adolescents' individual psychological processes should be examined in interaction with the social environment in order to be fully understood.

Authors' Contributions FA and EC contributed equally to the article. FA and EC conceived of the current study, participated in its design and coordination, performed the statistical analyses, and wrote the manuscript; MR participated in the design of the study and helped to draft the manuscript. All authors read and approved the final manuscript.

Data Sharing Declaration The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no competing interests.

Ethical Approval All procedures performed in this study involving human participants were in accordance with the ethical standards of the Ethics Committee of the Alma Mater Studiorum University of Bologna (Italy) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants (and from their parents, if minors) included in the study.

References

Albarello, F., & Rubini, M. (2012). Reducing dehumanisation outcomes towards blacks: The role of multiple categorisation and of human identity. *European Journal of Social Psychology*, *42*, 875–882. https://doi.org/10.1002/ejsp.1902.

Albarello, F., Crisp, R., & Rubini, M. (2017). Promoting beliefs in the inalienability of human rights by attributing uniquely human emotions through multiple categorization. *Journal of Social Psychology*. https://doi.org/10.1080/00224545.2017.1346581.

Arnett, J. J. (2012). *Adolescence and emerging adulthood: a cultural approach* (5th ed.). Boston, MA: Pearson.

Becht, A. I., Nelemans, S. A., Branje, S. J. T., Vollebergh, W. A. M., Koot, H. M., Denissen, J. J. A., & Meeus, W. (2016). The quest for identity in adolescence: Heterogeneity in daily identity formation and psychological adjustment across 5 years. *Developmental Psychology*, *52*, 2010–2021. https://doi.org/10.1037/dev0000245.

Benish-Weisman, M., Daniel, E., Schiefer, D., Möllering, A., & Knafo-Noam, A. (2015). Multiple social identifications and adolescents' self-esteem. *Journal of Adolescence*, *44*, 21–31. https://doi.org/10.1016/j.adolescence.2015.06.008.

Bosma, H. A. (1985). *Identity development in adolescence: Coping with commitments*. Groningen: Rijksuniversiteit. (Unpublished doctoral dissertation).

Bosma, H. A., & Kunnen, E. S. (2008). Identity-in-context is not yet identity development-in-context. *Journal of Adolescence*, *31*, 281–289. https://doi.org/10.1016/j.adolescence.2008.03.001.

Brandstätter, V., Ellemers, N., Gaviria, E., Giosue, F., Huguet, P., Kroon, M., ... & Perez, J. A. (1991). Indirect majority and minority influence: An exploratory study. *European Journal of Social Psychology*, *21*, 199–211. https://doi.org/10.1002/ejsp.2420210303.

Branje, S., Laninga-Wijnen, L., Yu, R., & Meeus, W. (2014). Associations among school and friendship identity in adolescence and romantic relationships and work in emerging adulthood. *Emerging Adulthood*, *2*, 6–16. https://doi.org/10.1177/2167696813515851.

Brown, B. B. (1990). Peer groups and peer cultures. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 171–196). Cambridge, MA: Harvard University Press.

Brown, B. B. (2004). Adolescents' relationships with peers. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 363–394). Hoboken, NJ: Wiley.

Brown, B. B., & Larson, J. (2009). Peer relationships in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (3rd ed., pp. 74–103). Hoboken, NJ: Wiley.

Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Routledge, Taylor & Francis Group.

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling*, *14*, 464–504. https://doi.org/10.1080/10705510701301834.

Crocetti, E. (2017). Identity formation in adolescence: The dynamic of forming and consolidating identity commitments. *Child Development Perspectives*, *11*, 145–150. https://doi.org/10.1111/cdep.12226.

Crocetti, E., Avanzi, L., Hawk, S. T., Fraccaroli, F., & Meeus, W. (2014). Personal and social facets of job identity: A person-centered approach. *Journal of Business and Psychology*, *29*, 281–300. https://doi.org/10.1007/s10869-013-9313-x.

Crocetti, E., Branje, S., Rubini, M., Koot, H. M., & Meeus, W. (2017). Identity processes and parent–child and sibling relationships in adolescence: A five-wave multi-informant longitudinal study. *Child Development*, *88*, 210–228. https://doi.org/10.1111/cdev.12547.

Crocetti, E., Cieciuch, J., Gao, C. H., Klimstra, T., Lin, C. L., Matos, P. M., et al. (2015). National and gender measurement invariance of the Utrecht Management of Identity Commitments Scale (U-MICS): A ten-nation study. *Assessment*, *22*, 753–768. https://doi.org/10.1177/1073191115584969.

Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence*, *31*, 207–222. https://doi.org/10.1016/j.adolescence.2007.09.002.

Crocetti, E., Schwartz, S. J., Fermani, A., & Meeus, W. (2010). The Utrecht-Management of Identity Commitments Scale (U-MICS): Italian validation and cross-national comparisons. *European Journal of Psychological Assessment*, *26*, 172–186. https://doi.org/10.1027/1015-5759/a000024.

Crocetti, E., Scrignaro, M., Sica, L. S., & Magrin, M. E. (2012). Correlates of identity configurations: Three studies with adolescent and emerging adult cohorts. *Journal of Youth and Adolescence*, *41*, 732–748. https://doi.org/10.1007/s10964-011-9702-2.

Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self-categorisation, commitment to the group and group self-esteem as

related but distinct aspects of social identity. *European Journal of Social Psychology*, *29*, 371–389. https://doi.org/10.1002/(SICI) 1099-0992(199903/05)29:2/3<371::AID-EJSP932>3.0.CO;2-U.

Erikson, E. H. (1968). *Identity: Youth and crises*. New York, NY: Norton.

Fadjukoff, P., Pulkkinen, L., & Kokko, K. (2005). Identity processes in adulthood: Diverging domains. *Identity*, *5*, 1–20. https://doi. org/10.1207/s1532706xid0501_1.

Goossens, L. (2001). Global versus domain-specific statuses in identity research: A comparison of two self-report measures. *Journal of Adolescence*, *24*, 681–699. https://doi.org/10.1006/jado.2001. 0438.

Grotevant, H. D., Thorbecke, W., & Meyer, M. L. (1982). An extension of Marcia's identity status interview into the inter-personal domain. *Journal of Youth and Adolescence*, *11*, 33–47. https://doi.org/10.1007/BF01537815.

Hamilton, D. L., Sherman, S. J., & Lickel, B. (1998). Perceiving social groups: The importance of the entitativity continuum. In C. Sedikides, J. Schopler & C. A. Insko (Eds.), *Intergroup cognition and intergroup behavior* (pp. 47–74). Mahwah, NJ: Erlbaum.

Hartup, W. W. (2005). Peer interaction: What causes what? *Journal of Abnormal Child Psychology*, *33*, 387–394. https://doi.org/10. 1007/s10802-005-3578-0.

Helsen, M., Vollebergh, W., & Meeus, W. (2000). Social support from parents and friends and emotional problems in adolescence. *Journal of Youth and Adolescence*, *29*, 319–335. https://doi.org/ 10.1023/A:1005147708827.

Hewlett, B. L. (Ed.), (2013). *Adolescent identity: Evolutionary, cultural and developmental perspectives*. New York, NY: Routledge.

Jensen, L. A. (Ed.), (2011). *Bridging cultural and developmental approaches to psychology: New syntheses in theory, research, and policy*. New York, NY: Oxford University Press.

Kelloway, K. E. (2015). *Using Mplus for structural equation modelling* (2nd ed.). Thousand Oaks, CA: Sage.

Klimstra, T. A., Luyckx, K., Hale, III, W. W., Frijns, W., Van Lier, P. A. C., & Meeus, W. (2010). Short-term fluctuations in identity: Introducing a micro-level approach to identity formation. *Journal of Personality and Social Psychology*, *99*, 191–202. https://doi. org/10.1037/a0019584.

Knifsend, C. A., & Juvonen, J. (2013). The role of social identity complexity in inter-group attitudes among young adolescents. *Social Development*, *22*, 623–640. https://doi.org/10.1111/j. 1467-9507.2012.00672.x.

Knifsend, C. A., & Juvonen, J. (2014). Social identity complexity, cross-ethnic friendships, and intergroup attitudes in urban middle schools. *Child Development*, *85*, 709–721. https://doi.org/10. 1111/cdev.12157.

Kuhn, D. (2009). Adolescent thinking. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (3rd ed., Vol. 1, pp. 152–186). Hoboken, NJ: Wiley.

Lewin, K. (1948). *Resolving social conflict*. New York, NY: Harper & Row.

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, *83*, 1198–1202. https://doi.org/10.1080/ 01621459.1988.10478722.

Little, T. D. (2013). *Longitudinal structural equation modeling*. New York, NY: Guilford Press.

Luyckx, K., Seiffge-Krenke, I., Schwartz, S. J., Crocetti, E., & Klimstra, T. A. (2014). Identity configurations across love and work in emerging adults in romantic relationships. *Journal of Applied Developmental Psychology*, *35*, 192–203. https://doi.org/ 10.1016/j.appdev.2014.03.007.

Marcia, J. E. (1993). The ego identity status approach to ego identity. In J. E. Marcia, A. S. Waterman, D. R. Matteson, S. L. Archer &

J. L. Orlofsky (Eds.), *Ego identity: A handbook for psychosocial research* (pp. 1–21). New York, NY: Springer-Verlag.

McLean, K. C. & Syed, M. (Eds.), (2014). *The Oxford handbook of identity development*. New York, NY: Oxford University Press.

McLean, K. C., Syed, M., & Shucard, H. (2016). Bringing identity content to the fore: Links to identity development processes. *Emerging Adulthood*, *4*, 356–364. https://doi.org/10.1177/ 2167696815626820.

McLean, K. C., Syed, M., Yoder, A., & Greenhoot, A. F. (2014). The role of domain content in understanding identity development processes. *Journal of Research on Adolescence*, *26*, 60–75. https://doi.org/10.1111/jora.12169.

Meeus, W. (2011). The study of adolescent identity formation 2000–2010: A review of longitudinal research. *Journal of Research on Adolescence*, *21*, 75–94. https://doi.org/10.1111/j. 1532-7795.2010.00716.x.

Meeus, W., Iedema, J., Helsen, M., & Vollebergh, W. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review*, *19*, 419–461. https://doi.org/10.1006/drev.1999.0483.

Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus User's Guide* (8th ed.). Los Angeles, CA: Muthén & Muthén.

Palmonari, A., Kirchler, E., & Pombeni, M. L. (1991). Differential effects of identification with family and peers on coping with developmental tasks in adolescence. *European Journal of Social Psychology*, *21*, 381–402. https://doi.org/10.1002/ejsp.2420210503.

Palmonari, A., Pombeni, M. L., & Kirchler, E. (1990). Adolescents and their peer groups: A study on the significance of peers, social categorization processes and coping with developmental tasks. *Social Behaviour*, *5*, 33–48.

Palmonari, A., Pombeni, M. L., & Kirchler, E. (1992). Evolution of the self concept in adolescence and social categorization processes. *European Review of Social Psychology*, *3*, 285–308. https://doi.org/10.1080/14792779243000096.

Prati, F., Crisp, R. J., Meleady, R., & Rubini, M. (2016a). Humanizing outgroups through multiple categorization: The roles of individuation and threat. *Personality and Social Psychology Bulletin*, *42*, 526–539. https://doi.org/10.1177/0146167216636624.

Prati, F., Crisp, R. J., Pratto, F., & Rubini, M. (2016b). Encouraging majority support for immigrant access to health services: Multiple categorization and social identity complexity as antecedents of health equality. *Group Processes & Intergroup Relations*, *19*, 426–438. https://doi.org/10.1177/1368430216629814.

Rubini, M., & Palmonari, A. (2006). Adolescents' relationships to institutional order. In S. Jackson & L. Goossens (Eds.), *Handbook of adolescent development* (pp. 264–283). Hove, NY: Psychology Press.

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, *66*, 507–514.

Schwartz, S. J., Luyckx, K., & Vignoles, V. L. (2011). *Handbook of identity theory and research*. New York, NY: Springer.

Sherif, M., & Sherif, C. W. (1964). *Reference groups: Exploration into conformity and deviation of adolescents*. New York, NY: Harper and Row.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of social conflicts. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks-Cole.

Tanti, C., Stukas, A. A., Halloran, M. J., & Foddy, M. (2011). Social identity change: Shifts in social identity during adolescence. *Journal of Adolescence*, *34*, 555–567. https://doi.org/10.1016/j. adolescence.2010.05.012.

Tarrant, M. (2002). Adolescent peer groups and social identity. *Social Development*, *11*, 110–123. https://doi.org/10.1111/1467-9507. 00189.

Tarrant, M., North, A. C., Edridge, M. D., Kirk, L. E., Smith, E. A., & Turner, R. E. (2001). Social identity in adolescence. *Journal of Adolescence*, 24, 597–609. https://doi.org/10.1006/jado.2000.0392.

Thomas, W. E., Brown, R., Easterbrook, M. J., Vignoles, V. L., Manzi, C., D'Angelo, C., & Holt, J. J. (2017). Social identification in sports teams: The role of personal, social, and collective identities motives. *Personality and Social Psychology Bulletin*, 43, 508–523. https://doi.org/10.1177/0146167216689051.

Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69, 907–924. https://doi.org/10.1111/1467-6494.696169.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. New York, NY: Basil Blackwell.

Vignoles, V. L., Schwartz, S. J., & Luyckx, K. (2011). Introduction: Toward an integrative view of identity. In S. J. Schwartz, K. Luyckx & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 1–27). New York, NY: Springer.

Flavia Albarello, Ph.D, is a postdoctoral fellow at the Department of Psychology, Alma Mater Studiorum University of Bologna, Italy. Her major research interests include social identity processes, prejudice reduction, and dehumanization.

Elisabetta Crocetti, Ph.D, is a senior assistant professor at the Department of Psychology, Alma Mater Studiorum University of Bologna, Italy. Her major research interests include identity formation in adolescence and emerging adulthood.

Monica Rubini, Ph.D, is a full professor of social psychology at the Department of Psychology, Alma Mater Studiorum University of Bologna, Italy. Her major research interests include social identity processes, intergroup relationships, and linguistic discrimination.