



# Developing Morality, Competence, and Sociability in Adolescence: A Longitudinal Study of Gender Differences

Elisabetta Crocetti<sup>1</sup> · Silvia Moscatelli<sup>1</sup> · Goda Kaniušonytė<sup>2</sup> · Wim Meeus<sup>3</sup> · Rita Žukauskienė<sup>2</sup> · Monica Rubini<sup>1</sup>

Received: 7 November 2018 / Accepted: 6 February 2019 / Published online: 18 February 2019  
© Springer Science+Business Media, LLC, part of Springer Nature 2019

## Abstract

Morality, competence, and sociability have been conceptualized as fundamental dimensions of social judgment that individuals use to evaluate themselves and other people and groups. The way in which adolescents perceive themselves along these dimensions affects the quality of their relationships across multiple social contexts. Given the centrality of morality, competence, and sociability for adolescents' social life, the purpose of this study was to understand how these dimensions develop over time with a focus on gender differences, since males and females can show distinct trajectories due to socialization and developmental processes. Participants were 916 (51.4% girls;  $M_{\text{age}} = 15.64$  years) adolescents involved in a three-wave longitudinal study with annual assessments. The findings highlighted that females reported increasing levels of morality and competence, while males showed decreasing levels in all dimensions. Furthermore, females also showed greater consistency in the configuration of morality, competence, and sociability, and inter-individual differences appeared to be already well-settled in each dimension for both males and females. Overall, this study increases the developmental understanding of how core dimensions of social judgment change in the adolescent phase, highlighting gender differences and similarities.

**Keywords** Morality · Competence Sociability · Gender · Development

## Introduction

Morality, competence, and sociability have been conceptualized as fundamental dimensions of social judgment that individuals use to evaluate other people and groups (Leach et al. 2007) as well as themselves (Abele and Wojciszke 2007). A growing corpus of evidence shows how these dimensions are at the basis of impression formation and influence actual social behavior (see Brambilla and Leach 2014 for a review; Prati, Moscatelli et al. 2018). Recently, it has also been shown that the way in which individuals perceive themselves along these dimensions affects the quality of their relationships across multiple social contexts (Crocetti et al. 2018).

However, it is less known how morality, competence, and sociability develop over time in individuals.

Adolescence is a key period in which to address this issue, as in this phase individuals undergo significant biological, cognitive, and social changes that prompt psychosocial development (for reviews see, Lerner and Steinberg 2009; Meeus 2016; Smetana et al. 2006). Furthermore, males and females can show distinct developmental trajectories due to socialization patterns (e.g., exposure to gender stereotypes) and developmental processes (e.g., differences in developmental timing) that can account for differences in how they perceive themselves in terms of morality, competence, and sociability. In line with these considerations, this longitudinal study was carried out in the light of the social psychological model on dimensions of social judgment (Leach et al. 2007) and with a novel developmental approach aimed at capturing how morality, competence, and sociability develop in male and female adolescents.

## Morality, Competence, and Sociability as Core Dimensions of Social Judgment

The social psychological literature has devoted considerable attention to the key dimensions along which individuals evaluate other people and groups (e.g., Moscatelli et al. 2019; Moscatelli and Rubini 2011; Rubini et al. 2007;

✉ Elisabetta Crocetti  
elisabetta.crocetti@unibo.it

<sup>1</sup> Alma Mater Studiorum Università di Bologna, Bologna, Italy

<sup>2</sup> Mykolas Romeris University, Vilnius, Lithuania

<sup>3</sup> Utrecht University, Utrecht, The Netherlands

Stewart et al. 2016). According to the bi-dimensional model of social judgment (Abele and Wojciszke 2007; Fiske et al. 2007), individuals are motivated to evaluate other persons in terms of two main aspects: *competence*, indicating the capability to pursue intents and goals, and *warmth*, which comprises traits related to friendliness, benevolence, and morality (Fiske et al. 2007). In the last decade, advances in theory have emphasized the importance of considering three, instead of two, dimensions of social judgment. This advance was prompted by the work of Leach et al. (2007), who demonstrated that in the warmth cluster a finer distinction should be made between morality on the one hand, and sociability on the other. *Morality*, as a means of evaluating individuals' intentions, is conceived as perceived correctness of social behavior, honesty, and trustworthiness; and *sociability* refers to the ability to have good relationships with others (Brambilla and Leach 2014; Leach et al. 2015). This implies that people can be moral without being sociable, and sociable without being moral.

In line with this finer distinction, convergent research has indicated that morality, competence, and sociability impact differently the evaluation of other people (Brambilla and Leach 2014). In fact, when individuals form an overall impression of a target person, they are more sensitive to information potentially revealing other people's morality rather than their competence or sociability (Brambilla et al. 2016; Goodwin 2015; Goodwin et al. 2014; Pagliaro et al. 2016). Furthermore, trustworthiness is considered the most desirable characteristic for an ideal person to possess (Cottrell et al. 2007) and competent and sociable people are evaluated positively only when they are also moral (Landy et al. 2016). In this way, consistent evidence demonstrates the primacy of morality in perception of others.

Notably, morality, competence, and sociability are not only dimensions that individuals use to judge other people, but also core dimensions along which they evaluate themselves. Literature highlights that individuals tend to evaluate themselves as more moral, but not more competent, than others, a phenomenon also known as the Muhammad Ali effect (Allison et al. 1989; Van Lange and Sedikides 1998). Moreover, they tend to overestimate their past moral behavior (e.g., donation, pro-social behavior), compared to others' behavior ("holier than thou"; Epley and Dunning 2000). In addition, individuals are more sensitive to remarks regarding their morality than their competence (Rodriguez Mosquera et al. 2002). Thus, extant research has considered how individuals evaluate themselves along the two dimensions of morality and competence (Abele and Wojciszke 2007), while a more fine-grained analysis of how individuals perceive themselves using the distinction proposed by the three-dimensional model (i.e., morality, competence, and sociability; Leach et al. 2007) is currently lacking.

More importantly, taking a developmental perspective allows to gain novel knowledge of how these dimensions change in adolescence.

### Gender Differences in the Development of Morality, Competence, and Sociability

Recently, it has been demonstrated that the extent to which adolescents perceive themselves as moral, sociable, and competent affects the quality of their relationships in various life domains (family, friends, and school contexts; Crocetti et al. 2018). More specifically, a primacy of morality, in terms of correctness of social behavior, honesty, and trustworthiness (Leach et al. 2007), has been documented. The more adolescents perceived themselves as highly moral, the more they reported strong family, friend, and school relationships over time. In addition, sociability also had positive effects, but they were limited to friendships, whereas competence did not lead to significant changes in relationships in any social context. Thus, if morality can be defined by multiple components (e.g., Graham et al. 2011; Lapsley and Carlo 2014), taking a specific focus on its public dimension (Leach et al. 2007), captures an aspect that has a strong impact on adolescents' social interactions because trustworthiness and honesty have a fundamental role in establishing high-quality relationships across different contexts.

### Mean-level Changes

Adolescents' development can be captured by different patterns of mean-level changes of key psychosocial aspects (e.g., Bornstein et al. 2017). These changes generally highlight adaptive pathways that can be qualified by adolescent maturation (for a review see Meeus 2019). Notably, gender differences can account for variations in mean-level changes of morality, competence, and sociability very likely because of gender stereotypes underlying socialization processes (Alfieri et al. 1996; Cole et al. 2001; Kanka et al. 2017). Research has shown that stereotypic representations of males and females become salient early in development (Bigler and Liben 2007; Prentice and Carranza 2002). Even preschool children might show personal endorsement of gender stereotypes (Weisgram 2016), due to pervasive gender labeling as a meaningful category in their contexts (Bem 1998; Liben and Bigler 2017). Even though after age seven, children become more flexible in their endorsement of gender stereotypes (Martin and Ruble 2004), these stereotypes continue to influence children and adolescents' behaviors and interests across academic, occupational, and leisure domains (Barth et al. 2017; Boiché et al. 2014; Jewell and Brown 2013; Menegatti et al. 2017). Notably,

research on gender identity has highlighted that self-perceived gender typicality is positively associated to psychological adjustment and peer acceptance in adolescence (Egan and Perry 2001; Menon 2011), especially when societal pressures to conform to gender norms are high (Smith and Leaper 2006).

Overall, the consequences of gender stereotypes, whether considering adolescents or adults, at an explicit or implicit level, have been addressed in the light of the bidimensional model of warmth and competence (Cuddy et al. 2008). Accordingly, females are expected to behave in a nicer way than males, and males are expected to behave in a more competent way than females (Fiske 1998). Adopting the three-dimensional model would allow to gain a more fine-grained understanding of how male and female adolescents develop along the three fundamental dimensions affecting social judgment (e.g., Brambilla and Leach 2014) and human behaviors at large (e.g., Crocetti et al. 2018). Furthermore, evidence does not always confirm the competence hypothesis related to males' performance since adolescent females usually outperform males in school (for a meta-analysis see, Voyer and Voyer 2014). In this vein, females might also report higher levels of competence than males.

### Rank-order Stability

Rank-order stability captures the extent to which inter-individual differences become stable over time (Bornstein et al. 2017). It is informative of whether the relative position of adolescents within a group of peers become increasingly fixed (Mroczek 2007; Roberts and DelVecchio 2000). For example, if Mary reports higher morality than Peter when they are 15 years old and this difference emerges also when they are 16 years old, this would speak of high rank-order stability. Extant literature indicates that rank-order stability increases in adolescence for multiple psychosocial aspects (Meeus 2019), such as personality traits (Klimstra et al. 2009) and self-concept clarity (Crocetti et al. 2016; Lodi-Smith and Crocetti 2018).

Some evidence of gender differences in rank-order stability has been provided, suggesting that inter-individual differences are more stable in females than in males (Crocetti, Rubini et al. 2016; Klimstra et al. 2009). This might be due to differences in developmental timing. In fact, female adolescents reach physical and cognitive maturity about 1-2 years ahead of males (Beunen et al. 2000; Colom and Lynn 2004; Giedd et al. 1999; Kroger 1997; Meeus et al. 2010). This enables them to reflect on their own traits and characteristics at an earlier age. In this vein, females can achieve greater consistency in how they perceive themselves compared to others (Klimstra et al. 2009), although this

difference is likely to disappear in late adolescence or emerging adulthood (Crocetti et al. 2016; Klimstra et al. 2010).

### Profile Similarity

Profile similarity (or profile stability; Roberts et al. 2001) can be considered as a person-centered index capturing intra-individual consistency in a cluster of psychological dimensions. For instance, if James at 15 years old scores the highest on morality, reports intermediate scores on competence, and lower scores on sociability and he shows the same intra-individual rank-order at the age of 16, this would be indicative of a consistent profile (i.e., high profile similarity). Prior studies generally indicated that profile similarity is increasingly high over the course of adolescence. This result has been found in the field of identity (Klimstra et al. 2010) and personality (Klimstra et al. 2009) research. Gender differences in profile similarity can be observed (Crocetti et al. 2013; Klimstra et al. 2009). They can be driven by females' earlier developmental timing, which in turn allow them to achieve intra-individual stability earlier than boys.

### Current Study

In line with the reasoning above, the overall goal of this study was to understand how male and female adolescents develop morality, competence, and sociability. In order to address this issue comprehensively, multiple indices of change and stability (mean level changes, rank-order stability, and profile similarity; Bornstein et al. 2017; Meeus 2019) were examined in a three-wave longitudinal study with annual assessments. Considering the influence of gender stereotypes in the adolescent experience (e.g., Cole et al. 2001; Egan and Perry 2001), gender differences in mean-level changes of morality, competence, and sociability were hypothesized. Since females are expected to be warmer than males and warmth encompasses the distinct dimensions of morality and sociability (Leach et al. 2007), we predicted that females would report higher morality and sociability. In addition, although males are stereotypically represented as more competent than females (Fiske 1998), and competence is strongly linked to academic performance in adolescence, an aspect on which females outperform males (Voyer and Voyer 2014), we expected that females would report also higher competence than males. Taking into account differences in developmental timing (e.g., Kroger 1997), according to which females reach pubertal and cognitive maturity earlier than males, levels of rank-order stability (in morality, competence, and sociability)

and profile similarity of females were expected to be higher than those of males.

## Methods

### Participants

Data for this study were drawn from the longitudinal research project “Mechanisms of promoting positive youth development in the context of socio-economical transformations (POSIDEV)”. This project aims at examining individual (e.g., personal characteristics), family (e.g., relationships with parents), and school (e.g., school engagement) factors related to positive youth development (for more information see Žukauskienė et al. 2015). Participants for the current study were 916 (51.4% females) adolescents attending grades 9 and 10 from high schools located in Northeastern Lithuania. At baseline, the age of participants ranged from 14 to 17 ( $M_{age} = 15.64$ ,  $SD_{age} = 0.70$ ). The sample was diverse in terms of family and socio-economic backgrounds. Most participants lived with two parents (68.5%); the remaining participants had a range of other family situations owing to parental divorce (18.4%), loss (4.7%), and migration (4.1%). Regarding the socio-economic status, 26% received state economic support (free nutrition at school), and in 20.8% of cases at least one of the parents was jobless. The sample was homogeneous in terms of ethnic background (i.e., absolute majority of the participants were Lithuanian and 0.76% were of different ethnic background).

Participants provided information for three waves, with one-year intervals between each wave. Of the original sample, 871 (response rate 95.09%) and 784 (response rate 85.59%) adolescents participated at T2 and T3 data collections. Results of Little’s (1988) Missing Completely at Random (MCAR) test yielded a  $\chi^2/df$  value of 1.63. Therefore, all 916 participants could be included in the analyses conducted by means of the Full Information Maximum Likelihood procedure available in *Mplus*.

### Procedure

This study was based on a community sampling approach: All high schools in Utena district municipality (North-eastern Lithuania) were selected for participation in the POSIDEV project. This municipality is representative of a typical Lithuanian small city. The study protocols were approved by the ethical committee of the Department of Psychology of the Mykolas Romeris University, Vilnius, Lithuania. During the introductory meeting the adolescents

were informed about the purpose of the study and that participation was voluntary. The parents were informed about the study through a written letter and asked to contact the school or the investigators if they did not want their children to participate.

The three assessments (T1, T2, and T3) took place in February–May 2013, 2014, and 2015, respectively. Before each wave, school administration and prospective participants were informed about the date and time of the assessment. Researchers and several trained research assistants administered the questionnaires at the schools during regular class hours. The students who were absent on the day of data collection were contacted the following week by the research assistants to arrange for the completion of the questionnaires. The adolescents were not paid for participation, but all students who completed the questionnaires were eligible for a lottery reward (i.e., they could receive one of these alternative prizes: USB flash drive, issue of popular “Psychology” journal, paper notebook, etc).

## Measures

### Morality

Adolescents rated the extent to which they perceive themselves to be moral by filling a subscale of the Self-Perception Profile for Adolescence (SPPA; Harter 1988; for information about validity of the Lithuanian version see Crocetti et al. 2018). Five items were used to assess adolescents’ correctness of behavior: “I usually do the right thing”, “I often get in trouble for the things I do” (recoded), “I feel really good about the way I act”, “I do things I know I shouldn’t do” (recoded), and “I usually act the way I know I am supposed to”. Items were scored on a 4-point scale, ranging from 1 (not true for me at all) to 4 (very true for me). In this study, Cronbach’s alphas were 0.65, 0.61, and 0.67 at T1, T2, and T3, respectively.

### Competence

Adolescents’ self-reported levels of competence were measured with a further subscale of the SPPA (Harter 1988). Participants filled the following five items on a 4-point scale, ranging from 1 (not true for me at all) to 4 (very true for me): “I feel that I am just as smart as others my age”, “I am pretty slow in finishing my school work” (recoded), “I do very well at my class work”, “I have trouble figuring out the answers in school” (recoded), “I feel that I am pretty intelligent”. In this study, Cronbach’s alphas were 0.72, 0.71, and 0.73 at T1, T2, and T3, respectively.

**Table 1** Observed means (M) and standard deviations (SD) for all study variables at each time point (T)

	T1		T2		T3	
	M	SD	M	SD	M	SD
<i>Morality</i>						
Males	2.86	0.48	2.86	0.45	2.79	0.47
Females	2.97	0.49	2.98	0.46	3.04	0.47
Total	2.92	0.49	2.92	0.46	2.93	0.49
<i>Competence</i>						
Males	2.88	0.50	2.89	0.50	2.84	0.50
Females	2.84	0.52	2.94	0.51	2.94	0.51
Total	2.86	0.51	2.92	0.51	2.89	0.51
<i>Sociability</i>						
Males	2.96	0.57	2.91	0.55	2.88	0.53
Females	2.93	0.56	2.92	0.55	2.90	0.56
Total	2.94	0.56	2.91	0.55	2.89	0.55

## Sociability

Also for measuring sociability, a subscale of the SPPA (Harter 1988) was used. Respondents filled these five items on a 4-point scale, from 1 (not true for me at all) to 4 (very true for me): “I find it hard to make friends” (recoded), “I have a lot of friends”, “I am very hard to like” (recoded), “I am popular among my peers”, “I feel that I am socially accepted”. In this study, Cronbach’s alphas were 0.76, 0.73, and 0.73 at T1, T2, and T3, respectively.

## Results

### Preliminary Results

Descriptive statistics of the study variables are reported in Table 1. Bivariate correlations within each wave of data collection are displayed in Table 2. As can be seen, morality, competence, and sociability were significantly and positively interrelated.

### Mean Level Changes

The first purpose of this study was to examine *mean-level changes* in morality, competence, and sociability.<sup>1</sup> To reach this aim, a multivariate latent growth curve (LGC) analysis

<sup>1</sup> As a preliminary step, longitudinal measurement invariance (Little 2013; Van de Schoot et al. 2012) was tested. Thus, for each dimension the configural (baseline), metric (in which factor loadings were constrained to be equal across time), and scalar (in which both factor loadings and item intercepts were constrained to be equal across time) models were compared. Model comparisons were conducted considering changes in fit indices (e.g., Chen 2007). Findings indicated the establishment of the three levels of longitudinal measurement invariance for all study constructs.

(Duncan, et al. 2006; Preacher 2010) was performed to estimate multiple attributes of change (i.e., intercept and linear slope) for each dimension and to examine their reciprocal interplay. Specifically, the means of intercepts and slopes capture average developmental trajectories reported by a group of informants, whereas the variances of intercepts and slopes indicate inter-individual differences in the levels and rates of change. Correlations between intercepts and between slopes estimate associations between latent growth factors.

Analyses were conducted in *Mplus* 7.8 (Muthén and Muthén 1998–2016), by means of the maximum likelihood robust (MLR) estimator (Satorra and Bentler 2001). The model fit was tested relying on multiple indices (Byrne 2012): the Tucker-Lewis Index (TLI) and the comparative fit index (CFI), with values higher than 0.90 indicative of an acceptable fit and values higher than 0.95 revealing an excellent fit; and the root mean square error of approximation (RMSEA), with values below 0.08 indicative of an acceptable fit and values less than 0.05 representing a good fit.

The model fit the data well in the total sample,  $\chi^2 = 88.600$ ,  $df = 18$ ,  $CFI = 0.972$ ,  $TLI = 0.943$ ,  $RMSEA = 0.066$  [0.052, 0.080]. A multi-group approach was used to model intercepts and slopes separately for males and females and differences were tested for significance by means of the Wald test. Also this model fit the data well,  $\chi^2 = 105.439$ ,  $df = 36$ ,  $CFI = 0.972$ ,  $TLI = 0.944$ ,  $RMSEA = 0.065$  [0.051, 0.080].

Intercepts and slopes for the total sample and for males and females separately are reported in Table 3 and estimated means are displayed in Figs. 1–3. As can be seen, in the total sample morality was found to be stable over time. However, this stability masked a clear gender difference, in both the intercept and the slope. In fact, females reported a significantly higher level of morality than males and this difference became even more pronounced over time since females’ scores increased (albeit not significantly,  $p = 0.087$ ), whereas males’ scores decreased significantly. Similarly, competence was found to be stable in the total sample, but also in this case there was a gender difference. In fact, although the initial levels of competence were comparable, their rate of change was significantly different: competence decreased significantly for males whereas it increased significantly for females. Finally, sociability was found to decrease significantly in the total sample. Although this decrease was more pronounced for males (i.e., it was statistically significant) than for females (it was not statistically significant), this overall difference did not reach statistical significance ( $p = 0.092$ ). Thus, for sociability the developmental trajectory was found to be comparable for males and females, whereas development of morality and competence differed significantly across gender groups.



**Table 2** Bivariate correlations among study variables within each time point (T) (for males/females/total)

	T1		T2		T3	
	Competence	Sociability	Competence	Sociability	Competence	Sociability
Morality	0.38 <sup>***</sup> /0.38 <sup>***</sup> / 0.37 <sup>***</sup>	0.22 <sup>***</sup> /0.14 <sup>**</sup> / 0.17 <sup>***</sup>	0.42 <sup>***</sup> /0.47 <sup>***</sup> / 0.45 <sup>***</sup>	0.30 <sup>***</sup> /0.23 <sup>***</sup> / 0.26 <sup>***</sup>	0.43 <sup>***</sup> /0.47 <sup>***</sup> / 0.46 <sup>***</sup>	0.30 <sup>***</sup> /0.30 <sup>***</sup> / 0.29 <sup>***</sup>
Competence	1	0.34 <sup>***</sup> /0.30 <sup>***</sup> / 0.32 <sup>***</sup>	1	0.41 <sup>***</sup> /0.40 <sup>***</sup> / 0.40 <sup>***</sup>	1	0.44 <sup>***</sup> /0.40 <sup>***</sup> / 0.42 <sup>***</sup>
Sociability		1		1		1

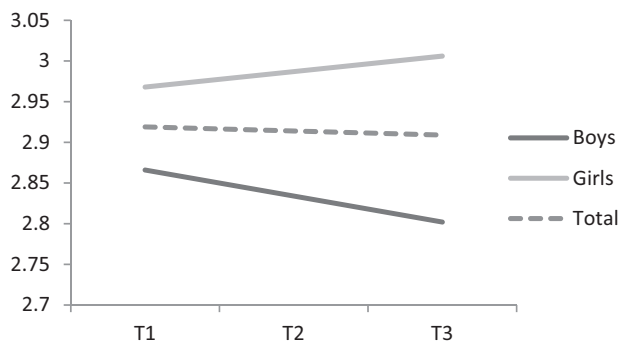
\*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table 3** Multivariate latent growth curve analyses: means (M) and variance ( $\sigma^2$ ) of the growth factors (intercepts and slopes)

	Intercept (I)		Slope (S)	
	M	$\sigma^2$	M	$\sigma^2$
<b>Morality</b>				
Males	<b>2.86<sub>b</sub></b> <sup>***</sup>	0.12 <sup>***</sup>	<b>-0.03<sub>x</sub></b> <sup>*</sup>	0.01
Females	<b>2.97<sub>a</sub></b> <sup>***</sup>	0.13 <sup>***</sup>	<b>0.02<sub>y</sub></b>	0.01
Total	2.92 <sup>***</sup>	0.13 <sup>***</sup>	-0.01	0.01
<b>Competence</b>				
Males	2.89 <sub>b</sub> <sup>***</sup>	0.16 <sup>***</sup>	<b>-0.04<sub>x</sub></b> <sup>*</sup>	0.02
Females	2.86 <sub>b</sub> <sup>***</sup>	0.16 <sup>***</sup>	<b>0.04<sub>y</sub></b> <sup>**</sup>	0.01
Total	2.88 <sup>***</sup>	0.16 <sup>***</sup>	0.00	0.01 <sup>*</sup>
<b>Sociability</b>				
Males	2.96 <sub>a</sub> <sup>***</sup>	0.20 <sup>***</sup>	-0.05 <sub>x</sub> <sup>**</sup>	0.02
Females	2.93 <sub>a</sub> <sup>***</sup>	0.20 <sup>***</sup>	-0.02 <sub>x</sub>	0.01
Total	2.94 <sup>***</sup>	0.20 <sup>***</sup>	-0.03 <sup>***</sup>	0.02 <sup>*</sup>

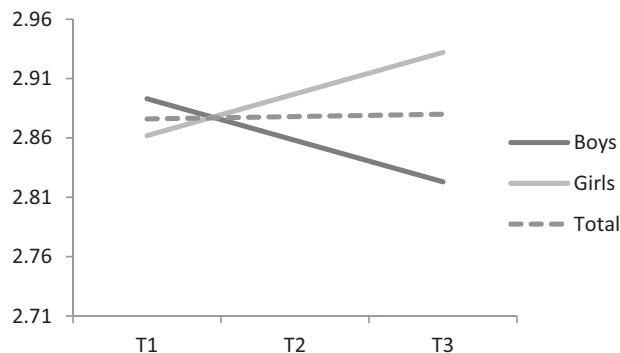
Values in bold are significantly different ( $p < 0.05$ ) for males and females at the Wald test. Within columns, different subscripts indicate significant differences ( $p < 0.05$ ) between intercepts and between slopes calculated within each gender group

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

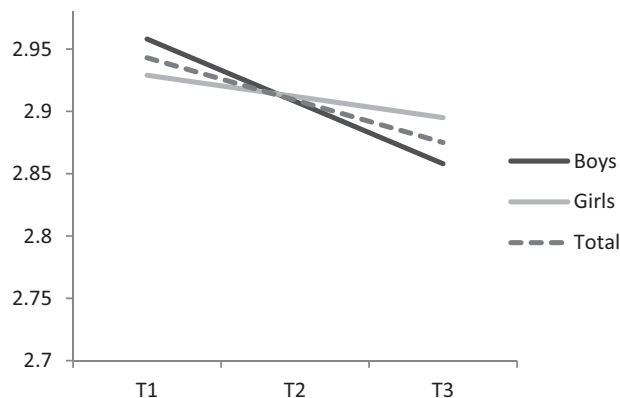


**Fig. 1** Estimated growth of morality

Within each gender group, differences between intercepts and slopes were then tested. As indicated with subscripts reported in Table 3 within columns, for females the



**Fig. 2** Estimated growth of competence



**Fig. 3** Estimated growth of sociability

intercepts of morality and sociability were comparable and significantly higher than the intercept of competence. In addition to this, females' positive slopes of morality and competence were significantly different from the negative slope of sociability. For males, the intercept of sociability was significantly higher than the intercepts of competence and morality (which did not differ from each other), and no significant differences in the negative slopes were found. Taken together, these results suggest that for females,

**Table 4** Correlations among latent growth factors (for males/females/total)

	Correlations between intercepts		Correlations between slopes	
	2	3	2	3
1. Morality	0.09 <sup>***</sup> /0.10 <sup>***</sup> / 0.09 <sup>***</sup>	0.06 <sup>***</sup> /0.04 <sup>***</sup> / 0.05 <sup>***</sup>	0.02 <sup>***</sup> /0.01 <sup>***</sup> / 0.02 <sup>***</sup>	0.02 <sup>***</sup> /0.01 <sup>***</sup> / 0.02 <sup>***</sup>
2. Competence	–	0.10 <sup>***</sup> /0.09 <sup>***</sup> / 0.09 <sup>***</sup>	–	0.02 <sup>***</sup> /0.01 <sup>***</sup> / 0.02 <sup>***</sup>
3. Sociability		–		–

None of the reported values were statistically significant between males and females at the Wald test

<sup>\*\*\*</sup> $p < 0.001$

morality became the dimension on which they scored the highest, whereas for males it was sociability.<sup>2</sup>

Finally, correlations between growth factors were examined in the total sample and for males and females separately. In this case, no significant gender differences were found. As indicated in Table 4, significant positive associations among all intercepts and slopes were detected, suggesting that morality, competence, and sociability were developmentally related. This result was very robust and consistent for males and females.

### Rank-Order Stability

The second purpose of this study was to examine whether the rank-order of adolescents on morality, competence, and sociability was maintained over time. To this end, rank-order stability was evaluated by performing in SPSS Pearson's test-retest correlations (e.g., correlation between morality at Time 1 and morality at Time 2). Coefficients about or higher 0.60 can be interpreted as indicating a high degree of stability (e.g., Mroczek 2007). Findings, reported in the first part of Table 5, indicated that one-year rank-order stability was high for each dimension.

To test gender differences in rank-order stability, correlation coefficients were transformed into  $z$ -scores using Fisher  $r$ -to- $z$  transformations, and then these  $z$ -scores were compared for statistical significance ( $p < .05$ ). Results indicated that, with only one exception (T2-T3 stability in competence was significantly higher for females), rank-order stability was similar for males and females. Furthermore, rank-order stability values increased over time for sociability ( $p < 0.05$ ), while they remained stable for morality and competence.

<sup>2</sup> A further confirmation of this can be obtained by rank ordering at each wave observed scores of morality, competence, and sociability for males and females separately. For males the first dimension was, at each wave, sociability; whereas for females it was morality.

**Table 5** Rank-order stability and profile similarity

Rank-order stability	T1–T2	T2–T3
<i>Morality</i>		
Males	0.55	0.57
Females	0.59	0.64
Total	0.57	0.62
<i>Competence</i>		
Males	0.57	<b>0.55</b>
Females	0.64	<b>0.72</b>
Total	0.60	0.65
<i>Sociability</i>		
Males	0.56	0.64
Females	0.63	0.68
Total	0.60	0.67
Profile similarity		
Males	0.36	<b>0.35</b>
Females	0.43	<b>0.47</b>
Total	0.40	0.42

T = time point. Values in bold are significantly different ( $p < 0.05$ ) for males and females

All correlations were significant at  $p < 0.001$

### Profile Similarity

Finally, profile similarity was analyzed. For each individual a  $q$ -correlation (e.g., Block 1971) was computed, by correlating a rank-ordered set of dimensions at one measurement occasion (e.g., T1) with a rank-ordered set of the same dimensions at the subsequent measurement occasion (e.g., T2). The higher the  $q$ -correlation, the more stable a configuration of dimensions within a person is (e.g., Roberts et al. 2001). Findings, reported in the second part of Table 5, indicated that profile similarity was moderately high and that the T2–T3 score was significantly higher for females than it was for males. Thus, over time females' intra-individual configuration of self-reported morality, competence, and sociability became more organized than that of males.

## Discussion

Morality, competence, and sociability are fundamental dimensions on which individuals base their evaluation of themselves, of other people, and groups (e.g., Brambilla and Leach 2014). While prior research highlighted that these dimensions, especially morality, have main implications for enhancing development of adolescents' nurturing relationships across family, peers, and school contexts (Crocetti et al. 2018), it remained less understood how they develop in adolescence. This longitudinal study addressed this gap, by providing novel insights on gender differences and similarities in the adolescent development of morality, competence, and sociability.

First, mean level changes highlighted that females reported higher morality than males and this difference became stronger over time, since females increased in morality and males decreased. Furthermore, females and males showed similar initial levels of competence but different trajectories: females showed increasing levels of competence and males decreasing ones. In addition, development of sociability in males and females was similar. Second, rank-order stability was found to be high and similar for males and females, suggesting that inter-individual differences in morality, competence, and sociability are already established in adolescence. Finally, profile similarity was initially similar in males and females but became greater in females over time, highlighting that the intra-individual configuration of morality, competence, and sociability within each person is more stable for females than for males. Overall, this evidence provides a comprehensive understanding of how morality, competence, and sociability develop in males and females, as further discussed below.

### Developmental Trajectories: When Females and Males Take Different Roads

Pronounced gender differences were found in the development of morality. Females reported higher morality than males and this difference widened over the three years of investigation, as females and males showed opposite trends, with females increasing and males decreasing in morality. These findings also provide evidence that complements extant research on adolescent development of empathy, another important component of morality. In adolescence females exhibit higher empathy than males and this difference tends to be particularly accentuated in middle adolescence (Van der Graaff, et al. 2014). Additionally, the present findings are consistent with gender differences in prosocial behaviors, with females exhibiting more unselfish behavior than males (e.g., Van der Graaff, et al. 2018). Overall, these studies show convergent evidence by

highlighting that the developmental trajectory of morality for female adolescents is consistent across related aspects.

With respect to competence, males and females did not differ initially, but over time females reported greater competence than males. Whereas males are usually expected to be more competent than females (Eagly 1987; Fiske 1998), this evidence might imply that females try to acquire competence skills as much as their male teenagers as a means to fill the gender gap on this important dimension. Furthermore, these findings are in line with the consideration that perceptions of competence might be rooted in domains that vary according to the development period that is examined. In adolescence being competent is strongly defined by academic achievement, an aspect on which females usually have better performances than males (e.g., Pop et al. 2016). In contrast, in adulthood competence becomes more strongly tied to job careers (e.g., promotion to highly ranked job positions), that are usually more favorable for males.

As far as sociability is concerned, in the present research males and females reported comparable initial levels of sociability, which decreased over time for both groups. The decrease in perceived sociability may be due to the doubts that adolescents frequently experience about their social skills and the possibility of establishing sincere friendships with their peers (Maes et al. 2016). In this respect, it should also be noted that the more adolescents intensify their interactions across multiple contexts, the more they become aware of the complexity and difficulty in re-negotiating their existing relationships (e.g., to develop more symmetrical relationships with their parents; De Goede et al. 2009) or establishing and maintaining new stable relationships (e.g., romantic relationships; Rogers et al. 2018).

Notably, differently from what expected, the current study highlights that female developmental trajectories of morality and sociability varied significantly; during the three-year study morality increased whereas sociability decreased. This difference provides supporting evidence to the importance of distinguishing morality and sociability, as two non-overlapping constructs, pointing to the heuristic value of the three-dimensional model proposed by Leach and collaborators (Leach et al. 2007; Leach et al. 2017).

Considering initial levels and changes in all dimensions simultaneously, the dimension on which females scored the highest was morality, while for males it was sociability. In fact, at the beginning of the study females' scores of morality and sociability were both significantly higher than those of competence. However, as they grew up, they showed increased morality and decreased sociability. As a result, morality became the dimension on which females scored the highest. Males, on the other hand, at the beginning of the study scored higher on sociability than on competence and morality, and during the study, they



showed a linear decrease in all dimensions. This evidence further advances the theoretical understanding of the different roles of morality and sociability. Theoretically, both morality and sociability are important for strengthening interpersonal and group relationships (Abele and Wojciszke 2007; 2014), since individuals are motivated to understand whether others have good intentions and are friendly, kind, and nice (Fiske et al. 2007; Ybarra et al. 2001). However, it seems that females consider morality very important in their development, whereas males seem to rely more on sociability.

Notably, although sociability appears important for males, it declines significantly over time, similarly to what happens to self-reported levels of morality and competence. This might indicate that males become increasingly critical of the all set of their traits. The transition from middle to high school, as well as the pubertal development, might trigger in-depth self-reflection. Thus, while males may have a tendency to inflate their self-perception in childhood, they can become more critical about themselves in adolescence (Crocetti, Rubini et al. 2016; Van Dongen-Melman, et al. 1993).

### Inter-Individual Differences in Morality, Competence, and Sociability

In this study, rank-order stability was high and comparable across dimensions (Mroczek 2007). Differently from what hypothesized, results were similar for males and females, with only one exception (females had higher T2–T3 rank-order stability in competence than males). Overall, this evidence informs about the maintenance of individual differences in morality, competence, and sociability over time. This result can be interpreted in the broader context of adolescent development, by considering that rank-order stability indices of this study were comparable to those observed in other domains of adolescent development (for a review see Meeus 2019), such as development of personality (see Roberts and DelVecchio 2000 for a meta-analysis), self-concept clarity (Crocetti, Rubini et al. 2016), and identity (Meeus 2011).

### Stability in Intra-Individual Configurations of Morality, Competence, and Sociability

Results regarding profile similarity indicated that the stability of a person's configuration of morality, competence, and sociability was moderate-to-high. It is worth noting that these indices were generally lower than those found for personality (Klimstra et al. 2009) and identity (Meeus 2011) dimensions. In addition to this, and partly confirming our hypothesis, gender differences were not found initially (i.e., in T1–T2 values) but emerged over time (i.e., they were

found in T2–T3 profile similarity). These results underscore that when females grow older, they show greater intra-individual maturation than males.

### Practical Implications

Overall, results of this study bring good and bad news for females. The good news is that females show increasing levels of both morality and competence. In this way, they become well-equipped to face upcoming developmental tasks related to the transition to young adulthood. In fact, changes in self-reported morality and competence, with females increasing in both dimensions and males decreasing, might have important implications for later development and goal achievement. There is some evidence regarding job hiring and retention decisions suggesting that, for male candidates, competence ratings dominate decisions made, whereas women are expected to show competence *as well as* morality (Moscatelli et al. 2018; Prati, Menegatti et al. 2018). This means that women need to achieve higher standards to be hired compared to men. Thus, females' increase in both morality and competence can be an adaptive way to cope with future barriers in the job context.

The bad news is that the females' developmental trajectories may show that they are aware of existing gender stereotypes (e.g., Barth et al. 2017; Jewell and Brown 2013) and conform to societal expectations and pressure. It has been demonstrated that whereas gender typicality (e.g., the extent to which individuals' perceptions are considered typical for the own gender) is positively correlated with adjustment (e.g., self-esteem), feeling pressures to conform to gender norms (e.g., feeling pressures from peers and/or parents) and non-accepting them have negative implications for adjustment (Egan and Perry 2001; Smith and Leaper 2006). Since findings showed significant variance in initial levels of all dimensions, it would be interesting to identify a subgroup of females who shows a less favorable profile and who might be worth of attention, given the burden that low gender typicality brings to adjustment. Notably, challenging social stereotypes has been proved to have both social benefits, such as increased tolerance, as well as individual benefits, by enhancing cognitive flexibility (Prati et al. 2015).

### Strengths, Limitations, and Suggestions for Future Research

This study should be considered in light of both its strengths and its limitations, with the latter pointing to directions for future research. From a theoretical point of view, a main strength of this study was its cross-fertilization approach, by means of which it was possible to enhance the developmental understanding of how the dimensions of social

judgment encompassed in the social psychological model proposed by Leach et al. (2007) change in the period of adolescence. In this respect, it is worth noting that, in line with Leach's model, morality was defined as correctness of social behavior, honesty, and trustworthiness. Notwithstanding the centrality of these aspects for inferring individuals' good or harmful intentions, other components of morality, such as issues regarding justice, welfare, and rights, which are the focus of attention in the social domain theory (Smetana 2013), could be addressed in further research.

From a methodological perspective, strengths of this study include the longitudinal design, which allowed examination of how morality, competence, and sociability change in the adolescent phase, and the large sample size, involving a representative group of high school students from Northeastern Lithuania (all schools in the region were sampled). However, this three-wave design did not permit to test non-linear developmental patterns nor monitoring how these dimensions change in the transition from adolescence to adulthood, and the results cannot be generalized to other contexts. Therefore, future studies with more waves of data collection, covering a longer developmental period, and involving representative samples from different nations, are needed. These studies could reveal potential non-linear trends, uncover whether the gender differences documented in the current study continue to be present in late adolescence and in the transition to young adulthood, and examine the replicability of current results across different cultural groups.

## Conclusion

Previous research clearly showed that morality, competence, and sociability affect social judgment (Brambilla and Leach 2014) and influence the quality of young people's relationships with their main social contexts (family, peers, and school; Crocetti et al. 2018), however it paid less attention to understanding how these dimensions develop in adolescence. The current longitudinal study addressed this gap, by providing novel insights into adolescent development of morality, competence, and sociability. It highlighted that whereas females increased in morality and competence, males showed another trajectory of development, with decreasing levels in all dimensions. Furthermore, females also showed greater consistency in the configuration of morality, competence, and sociability, with morality being the most important. Finally, inter-individual differences already appeared to be well-settled in each dimension and this result was similar for both males and females. Taken together, this evidence furthers existing knowledge considerably, showing how core dimensions of

social judgment that have relevant implications for adolescents' social interactions develop in males and females.

**Authors' Contributions** E.C., S.M., and M.R. conceived the current study; E.C. performed the statistical analyses. E.C., S.M., and M.R. wrote the manuscript; all authors (E.C., S.M., G.K., W.M., R.Z., M.R.) participated in the interpretation of the results and in the drafting of the article; R.Z. is the principal investigator of the POSIDEV project and is responsible for the data collection. All authors read and approved the final paper.

**Funding** Data of the POSIDEV study were used for this study. POSIDEV was funded by the European Social Fund under the Global Grant measure, VP1-3.1-SMM-07-02-008 assigned to Rita Žukauskienė. Silvia Moscatelli and Monica Rubini received support for working on this article by a grant from the Italian Ministry of Research and Education, University and Research FIRB2012 (Protocollo RBFR128CR6\_004) assigned to Silvia Moscatelli.

**Data Sharing and 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 conflict of interest.

**Ethical Approval** All procedures performed in this study involving human participants were in accordance with the ethical standards of the Ethics Committee of the Mykolas Romeris University, Vilnius (Lithuania) 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.

**Publisher's note:** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## References

- Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *J Pers Soc Psychol*, *93*, 751–763. <https://doi.org/10.1037/0022-3514.93.5.751>.
- Abele, A. E., & Wojciszke, B. (2014). Communal and agentic content in social cognition: A dual perspective model. In M. P. Zanna & J. M. Olson (Eds.), *Advances in experimental social psychology* 50, (195–255). Burlington: Academic Press.
- Alfieri, T., Ruble, D. N., & Higgins, E. T. (1996). Gender stereotypes during adolescence: Developmental changes and the transition to junior high school. *Dev Psychol*, *32*, 1129–1137. <https://doi.org/10.1037/0012-1649.32.6.1129>.
- Allison, S. T., Messick, D. M., & Goethals, G. R. (1989). On being better but not smarter than others: The Muhammad Ali effect. *Soc Cogn*, *7*, 275–295. <https://doi.org/10.1521/soco.1989.7.3.275>.
- Barth, J. M., Kim, H., Eno, C. A., & Guadagno, R. E. (2017). Matching abilities to careers for others and self: Do gender stereotypes matter to students in advanced math and science classes? *Sex Roles*, *79*, 83–97. <https://doi.org/10.1007/s11199-017-0857-5>.

- Bem, S. L. (1998). *An unconventional family*. New Haven: Yale University Press.
- Beunen, G., Thomis, M., Maes, H. H., Loos, R., Malina, R. M., & Claessens, A. L., et al. (2000). Genetic variance of adolescent growth in stature. *Annals of Human Biol*, 27, 173–186.
- Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. *Current Directions in Psychological Science*, 16, 162–166. <https://doi.org/10.1111/j.1467-8721.2007.00496.x>.
- Block, J. (1971). *Lives through time*. Berkeley, CA: Bancroft Books.
- Boiché, J., Plaza, M., Chalabaev, A., Guillet-Descas, E., & Sarrazin, P. (2014). Social antecedents and consequences of gender-sport stereotypes during adolescence. *Psychol Women Quarterly*, 38, 259–271. <https://doi.org/10.1177/0361684313505844>.
- Bornstein, M. H., Putnick, D. L., & Esposito, G. (2017). Continuity and stability in development. *Child Development Perspectives*, 11, 113–119. <https://doi.org/10.1111/cdep.12221>.
- Brambilla, M., & Leach, C. W. (2014). On the importance of being moral: The distinctive role of morality in social judgment. *Soc Cogn*, 32, 397–408.
- Brambilla, M., Sacchi, S., Menegatti, M., & Moscatelli, S. (2016). Honesty and dishonesty don't move together: trait content information influences behavioral synchrony. *Journal of Non-verbal Behavior*, 40, 171–186. <https://doi.org/10.1007/s10919-016-0229-9>.
- Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. 2nd edn. New York: 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.
- Cole, D. A., Maxwell, S. E., Martin, J. M., Peeke, L. G., Seroczynski, A. D., Tram, J. M., & Maschman, T. (2001). The development of multiple domains of child and adolescent self-concept: a cohort sequential longitudinal design. *Child Dev*, 72, 1723–1746. <https://doi.org/10.1111/1467-8624.00375>.
- Colom, R., & Lynn, R. (2004). Testing the developmental theory of sex differences in intelligence on 12–18 year olds. *Pers Individ Difesa*, 36, 75–82. [https://doi.org/10.1016/S0191-8869\(03\)00053-9](https://doi.org/10.1016/S0191-8869(03)00053-9).
- Cottrell, C. A., Neuberg, S. L., & Li, N. P. (2007). What do people desire in others? A sociofunctional perspective on the importance of different valued characteristics. *J Pers Soc Psychol*, 92, 208–231. <https://doi.org/10.1037/0022-3514.92.2.208>.
- Crocetti, E., Klimstra, T. A., Hale, III, W. W., Koot, H. M., & Meeus, W. (2013). Impact of early adolescent externalizing problem behaviors on identity development in middle to late adolescence: a prospective 7-year longitudinal study. *J Youth Adolesc*, 42, 1745–1758. <https://doi.org/10.1007/s10964-013-9924-6>.
- Crocetti, E., Moscatelli, S., Van der Graaff, J., Rubini, M., Meeus, W., & Branje, S. (2016). The interplay of self-certainty and prosocial development in the transition from late adolescence to emerging adulthood. *European Journal of Personality*, 30, 594–607. <https://doi.org/10.1002/per.2084>.
- Crocetti, E., Moscatelli, S., Kanišonytė, G., Branje, S., Žukauskienė, R., & Rubini, M. (2018). Adolescents' self-perception of morality, competence, and sociability and their Interplay with quality of family, friend, and school relationships: a three-wave longitudinal study. *J Youth Adolesc*, 47, 1743–1754. <https://doi.org/10.1007/s10964-018-0864-z>.
- Crocetti, E., Rubini, M., Branje, S., Koot, H. M., & Meeus, W. (2016). Self-concept clarity in adolescents and parents: a six-wave longitudinal and multi-informant study on development and intergenerational transmission. *J Pers*, 84, 580–593. <https://doi.org/10.1111/jopy.12181>.
- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: the stereotype content model and the BIAS map. *Advances in Experimental Social Psychology*, 40, 61–149. [https://doi.org/10.1016/S0065-2601\(07\)00002-0](https://doi.org/10.1016/S0065-2601(07)00002-0).
- Duncan, T. E., Duncan, S. C., & Strycker, L. A. (2006). *An introduction to latent variable growth curve modeling: Concepts, issues, and applications*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Eagly, A. H. (1987). *Sex differences in social behavior: a social-role interpretation*. Hillsdale, NJ: Erlbaum.
- Egan, S. K., & Perry, D. G. (2001). Gender identity: a multi-dimensional analysis with implications for psychosocial adjustment. *Dev Psychol*, 37, 451–463. <https://doi.org/10.1037/0012-1649.37.4.451>.
- Epley, N., & Dunning, D. (2000). Feeling “holier than thou”: are self-serving assessments produced by errors in self- or social prediction? *Journal of Personality and Social Psychology*, 79, 861–875. <https://doi.org/10.1037/0022-3514.79.6.861>.
- Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends Cogn Sci*, 11, 77–83. <https://doi.org/10.1016/j.tics.2006.11.005>.
- Fiske, S. T. (1998). Stereotyping, prejudice and discrimination. In D. Gilbert, S. T. Fiske, G. Lindzey (Eds.) *Handbook of social psychology*. 4th edn, Vol. 1. Boston, MA: McGraw-Hill.
- Giedd, J. N., Blumenthal, J., Jeffries, N. O., Castellanos, F. X., Liu, H., & Zijdenbos, A., et al. (1999). Brain development during childhood and adolescence: a longitudinal MRI study. *Nat Neurosci*, 2, 861–863.
- De Goede, I. H. A., Branje, S. J. T., & Meeus, W. H. J. (2009). Developmental changes in adolescents' perceptions of relationships with their parents. *J Youth Adolesc*, 38, 75–88. <https://doi.org/10.1007/s10964-008-9286-7>.
- Goodwin, G. P. (2015). Moral character in person perception. *Current Directions in Psychological Science*, 24, 38–44. <https://doi.org/10.1177/0963721414550709>.
- Goodwin, G. P., Piazza, J., & Rozin, P. (2014). Moral character predominates in person perception and evaluation. *J Pers Soc Psychol*, 106, 148–168. <https://doi.org/10.1037/a0034726>.
- Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *J Pers Soc Psychol*, 101, 366–385. <https://doi.org/10.1037/a0021847>.
- Harter, S. (1988). *The self-perception profile for adolescents*. Denver, CO: University of Denver.
- Jewell, J. A., & Brown, C. S. (2013). Sexting, catcalls, and butt slaps: how gender stereotypes and perceived group norms predict sexualized behavior. *Sex Roles*, 69, 594–604. <https://doi.org/10.1007/s11199-013-0320-1>.
- Kanka, M.H., Wagner, P., Buchmann, M., & Spiel, C. (2017). Gender-stereotyped preferences in childhood and early adolescence: A comparison of cross-sectional and longitudinal data. *European Journal of Developmental Psychology*, 1–17. <https://doi.org/10.1080/17405629.2017.1365703>.
- Klimstra, T. A., Hale III, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2009). Maturation of personality in adolescence. *J Pers Soc Psychol*, 96, 898–912. <https://doi.org/10.1037/a0014746>.
- Klimstra, T. A., Hale III, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2010). Identity formation in adolescence: change or stability? *J Youth Adolesc*, 39, 150–162. <https://doi.org/10.1007/s10964-009-9401-4>.
- Kroger, J. (1997). Gender and identity: the intersection of structure, content, and context. *Sex Roles*, 36, 747–770.
- Landy, J. F., Piazza, J., & Goodwin, G. P. (2016). When it's bad to be friendly and smart: the desirability of sociability and competence



- depends on morality. *Pers Soc Psychol Bull*, 42, 1272–1290. <https://doi.org/10.1177/0146167216655984>.
- Lapsley, D., & Carlo, G. (2014). Moral development at the crossroads: new trends and possible futures. *Dev Psychol*, 50, 1–7. <https://doi.org/10.1037/a003522>.
- Leach, C. W., Bilali, R., & Pagliaro, S. (2015). Groups and morality. In J. Simpson & J. F. Dovidio (Eds.), *APA Handbook of personality and social psychology. Interpersonal Relationships and Group Processes*, Vol. 2, (123–149). Washington, DC: American Psychological Association.
- Leach, C. W., Carraro, L., Garcia, R. L., & Kang, J. J. (2017). Morality stereotyping as a basis of women's in-group favoritism: An implicit approach. *Group Processes and Intergroup Relations*, 20, 153–172. <https://doi.org/10.1177/1368430215603462>.
- Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: the importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *J Pers Soc Psychol*, 93, 234–249. <https://doi.org/10.1037/0022-3514.93.2.234>.
- Lerner, R. M. & Steinberg, L. (Eds.) (2009). *Handbook of adolescent psychology*. 3rd edn. Hoboken, NJ: John Wiley and Sons, Inc.
- Liben, L. S., & Bigler, R. S. (2017). Understanding and undermining the development of gender dichotomies: the legacy of Sandra Lipsitz Bem. *Sex Roles*, 76, 544–555. <https://doi.org/10.1007/s11199-015-0519-4>.
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *J Am Stat Assoc*, 83, 1198–1202. <https://doi.org/10.1080/01621459.1988.10478722>.
- Little, T. D. (2013). *Longitudinal structural equation modeling*. New York: Guilford Press.
- Lodi-Smith, J., & Crocetti, E. (2018). Self-concept clarity development across the lifespan. In J. Lodi-Smith & K. G. DeMarree (Eds.), *Self-concept clarity: Perspectives on assessment, research, and applications* (pp. 67–84). New York: Springer.
- Maes, M., Vanhalst, J., Spithoven, A. W. M., Van den Noortgate, W., & Goossens, L. (2016). Loneliness and attitudes toward aloneness in adolescence: a person-centered approach. *J Youth Adolesc*, 45, 547–567. <https://doi.org/10.1007/s10964-015-0354-5>.
- Martin, C. L., & Ruble, D. (2004). Children's search for gender cues: cognitive perspectives on gender development. *Current Directions in Psychological Science*, 13, 67–70. <https://doi.org/10.1111/j.0963-7214.2004.00276.x>.
- Meeus, W. (2011). The study of adolescent identity formation 2000–2010: a review of longitudinal research. *J Res Adolesc*, 21, 75–94. <https://doi.org/10.1111/j.1532-7795.2010.00716.x>.
- Meeus, W. (2016). Adolescent psychosocial development: a review of longitudinal models and research. *Dev Psychol*, 52, 1969–1993. <https://doi.org/10.1037/dev0000243>.
- Meeus, W. (2019). *Adolescent development. Longitudinal research into self, personal relationships, and psychopathology*. London & New York: Routledge.
- Meeus, W., van de Schoot, R., Keijsers, L., Schwartz, S. J., & Branje, S. (2010). On the progression and stability of adolescent identity formation: a five-wave longitudinal study in early-to-middle and middle-to-late adolescence. *Child Dev*, 81, 1565–1581. <https://doi.org/10.1111/j.1467-8624.2010.01492.x>.
- Menegatti, M., Crocetti, E., & Rubini, M. (2017). Do gender and ethnicity make the difference? Linguistic evaluation bias in primary school. *Journal of Language and Social Psychology*, 36, 415–437. <https://doi.org/10.1177/0261927X17694980>.
- Menon, M. (2011). Does felt gender compatibility mediate influences of self-perceived gender nonconformity on early adolescents' psychosocial adjustment? *Child Dev*, 82, 1152–1162. <https://doi.org/10.1111/j.1467-8624.2011.01601.x>.
- Moscattelli, S., Menegatti, M., Albarello, F., Pratto, F., & Rubini, M. (2019). Can we identify with a nation low in morality? The heavy weight of (im) morality in international comparison. *Political Psychology*, 40, 93–110. <https://doi.org/10.1111/pops.12504>.
- Moscattelli, S., Menegatti, M., Ellemers, N., Mariani, M.G., & Rubini, M. (2018). The Lehman Sisters would not be hired: The 'Perfection bias', or rather, the heavy weight of morality and competence hindering women's selection. Manuscript under review.
- Moscattelli, S., & Rubini, M. (2011). The impact of group entitativity on linguistic discrimination: Ingroup favoritism and outgroup derogation in the explanation of negative outcome allocations. *Soc Psychol*, 42, 292–299. <https://doi.org/10.1027/1864-9335/a000071>.
- Mroczek, D.K. (2007). The analysis of longitudinal data in personality research. In R.W. Robins, R.C. Fraley & R.F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 543–556). New York: Guilford Press.
- Muthén, L. K., & Muthén, B. O. (1998). *Mplus User's Guide*. 7th edn. Los Angeles, CA: Muthén & Muthén. 2016.
- Pagliaro, S., Ellemers, N., Barreto, M., & Di Cesare, C. (2016). Once dishonest, always dishonest? the impact of perceived pervasiveness of moral evaluations of the self on motivation to restore a moral reputation. *Front Psychol*. <https://doi.org/10.3389/fpsyg.2016.00586>. 7(APR).
- Pop, E. I., Negru-Subtirica, O., Crocetti, E., Opre, A., & Meeus, W. (2016). On the interplay between academic achievement and educational identity: a longitudinal study. *J Adolesc*, 47, 135–144. <https://doi.org/10.1016/j.adolescence.2015.11.004>.
- Prati, F., Menegatti, M., Moscattelli, S., Kana Kenfack, C.S., Pireddu, S., Crocetti, E., Mariani, M.G., & Rubini, M. (2018). Are mixed gender committees less biased towards female and male employees? A linguistic analysis of competence, morality and sociability in performance appraisal. Manuscript under review.
- Prati, F., Moscattelli, S., Van Lange, P. A. M., Van Doesum, N. J., & Rubini, M. (2018). The central role of morality in perceived humanness and unselfish behaviors. *Soc Psychol*, 49, 330–343. <https://doi.org/10.1027/1864-9335/a000352>.
- Prati, F., Vasiljevic, M., Crisp, R. J., & Rubini, M. (2015). Some extended psychological benefits of challenging social stereotypes: decreased dehumanization and a reduced reliance on heuristic thinking. *Group Processes and Intergroup Relations*, 18, 801–816. <https://doi.org/10.1177/1368430214567762>.
- Preacher, K. J. (2010). Latent growth curve models. In G. R. Hancock & R. O. Mueller (Eds.), *The reviewer's guide to quantitative methods in the social sciences* (pp. 185–198). London: Routledge.
- Prentice, D. A., & Carranza, E. (2002). What women should be, shouldn't be, are allowed to be, and don't have to be: the contents of prescriptive gender stereotypes. *Psychol Women Quarterly*, 26, 269–281. <https://doi.org/10.1111/1471-6402.t01-1-00066>.
- Roberts, B. W., Caspi, A., & Moffitt, T. E. (2001). The kids are alright: growth and stability in personality development from adolescence to adulthood. *J Pers Soc Psychol*, 81, 670–683. <https://doi.org/10.1037/0022-3514.81.4.670>.
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: a quantitative review of longitudinal studies. *Psychol Bull*, 126, 3–25. <https://doi.org/10.1037/0033-2909.126.1.3>.
- Rodriguez Mosquera, P. M., Manstead, A. S. R., & Fischer, A. H. (2002). The role of honour concerns in emotional reactions to offences. *Cognition and Emotion*, 16, 143–163. <https://doi.org/10.1080/02699930143000167>.
- Rogers, A. A., Ha, T., Updegraff, K. A., & Iida, M. (2018). Adolescents' daily romantic experiences and negative mood: a dyadic, intensive longitudinal study. *J Youth Adolesc*, 47, 1517–1530. <https://doi.org/10.1007/s10964-017-0797-y>.
- Rubini, M., Moscattelli, S., Albarello, F., & Palmonari, A. (2007). Group power as a determinant of interdependence and intergroup

- discrimination. *Eur J Soc Psychol*, 37, 1203–1221. <https://doi.org/10.1002/ejsp.391>.
- Sattora, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, 66, 507–514.
- Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psy*, 57, 255–284. <https://doi.org/10.1146/annurev.psych.57.102904.190124>.
- Smetana, J. G. (2013). Moral development: The Social domain theory view. In P. D. Zelazo (Ed.) *The Oxford handbook of developmental psychology (Vol. 1): body and mind*. (832–863). New York, NY: Oxford University Press.
- Smith, T. E., & Leaper, C. (2006). Self-perceived gender typicality and the peer context during adolescence. *J Res Adolesc*, 16, 91–103. <https://doi.org/10.1111/j.1532-7795.2006.00123.x>.
- Stewart, A. L., Pratto, F., Bou Zeineddine, F., Sweetman, J., Eicher, V., Licata, L., ... van Stekelenburg, J. (2016). International support for the arab uprisings: Understanding sympathetic collective action using theories of social dominance and social identity. *Group Processes and Intergroup Relations*, 19, 6–26. <https://doi.org/10.1177/1368430214558310>.
- Van der Graaff, J., Branje, S., De Wied, M., Hawk, S., Van Lier, P., & Meeus, W. (2014). Perspective taking and empathic concern in adolescence: gender differences in developmental changes. *Dev Psychol*, 50, 881–888. <https://doi.org/10.1037/a0034325>.
- Van der Graaff, J., Carlo, G., Crocetti, E., Koot, H. M., & Branje, S. (2018). Prosocial behavior in adolescence: gender differences in development and links with empathy. *J Youth Adolesc*, 47, 1086–1099. <https://doi.org/10.1007/s10964-017-0786-1>.
- Van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, 9, 486–492. <https://doi.org/10.1080/17405629.2012.686740>.
- Van Dongen-Melman, J. E. W. M., Koot, H. M., & Verhulst, F. C. (1993). Cross-cultural validation of Harter's Self-Perception Profile for Children in a Dutch sample. *Educ Psychol Meas*, 53, 739–753.
- Van Lange, P. A. M., & Sedikides, C. (1998). Being more honest but not necessarily more intelligent than others: generality and explanations for the Muhammad Ali effect. *Eur J Soc Psychol*, 28, 675–680.
- Voyer, D., & Voyer, S. D. (2014). Gender differences in scholastic achievement: a meta-analysis. *Psychol Bull*, 140, 1174–1204. <https://doi.org/10.1037/a0036620>.
- Weisgram, E. S. (2016). The cognitive construction of gender stereotypes: evidence for the dual pathways model of gender differentiation. *Sex Roles*, 75, 301–313. <https://doi.org/10.1007/s11199-016-0624-z>.
- Ybarra, O., Chan, E., & Park, D. (2001). Young and old adults' concerns about morality and competence. *Motiv Emot*, 25, 85–100. <https://doi.org/10.1023/A:1010633908298>.
- Žukauskienė, R., Raižienė, S., Malinauskienė, O., Gabrielavičiūtė, I., Garckija, R., Vosylis, R., Kaniušonytė, G., Truskauskaitė-Kunevičienė, I., & Kajokienė, I. (2015). Pozityvi jaunimo raida Lietuvoje [Positive Youth Development in Lithuania]. Vilnius: MRU.

**Elisabetta Crocetti** 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.

**Silvia Moscatelli** is an Associate Professor of social psychology at the Department of Psychology, Alma Mater Studiorum University of Bologna, Italy. Her major research interests include morality in social judgment and intergroup discrimination.

**Goda Kaniušonytė** is an Associate Professor at the Institute of Psychology, Mykolas Romeris University, Lithuania. Her research interests include identity in adolescence and emerging adulthood and positive youth development.

**Wim Meeus** is an Emeritus Professor at the Research Centre Adolescent Development, Utrecht University, the Netherlands. His major research interests include adolescent development, family and peer relationships, identity and personality development, and mental health in youth.

**Rita Žukauskienė** is a Professor at the Institute of Psychology, Mykolas Romeris University, Lithuania. Her research interests include identity development and parent-child relationships in adolescence and emerging adulthood.

**Monica Rubini** 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.