

Socialization and individual antecedents of adolescents' and young adults' moral motivation.

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Abstract

Socialization and individual differences were examined as antecedents of moral motivation in representative samples of 15-year-old adolescents ($N = 1,258$; 54% female) and 21-year-old young adults ($N = 584$; 53% female). The adolescents' primary caregivers ($N = 1,056$) also participated. The strength of moral motivation was rated by participants' responses to two hypothetical moral dilemmas in terms of action decisions, emotion attributions, and justifications. Socialization was measured by the perceived quality of friendship, parent-child relationships, and educational background. The importance attached to social justice and various personality traits were also assessed. Adolescents' moral motivation was positively associated with the quality of their parent-child relationship and the importance of social justice. Young adults' moral motivation was predicted by the perceived quality of friendships, the importance of social justice, and agreeableness. For both groups, moral motivation was greater in females. The theoretical implications of the findings for the development of moral motivation are discussed.

Socialization and Individual Antecedents of Adolescents' and

Young Adults' Moral Motivation

As Western societies become more and more diversified both demographically and politically, the question of why individuals are motivated to act morally becomes notably more important. In moral psychology, moral motivation has been defined as individuals' readiness to abide by a moral rule they understand to be valid, even when this rule is in conflict with nonmoral desires (Nunner-Winkler, 1999). This definition implies that moral motivation has a strong cognitive component, as the person must understand the validity of moral rules. However, the person must also reflect upon this moral knowledge and choose to accept it as personally binding (Blasi, 2004). This process results in responsibility judgments that reflect the person's moral motivation (Krettenauer, Malti, & Sokol, 2008). To date, many questions regarding the antecedents of an individual's motivation to act morally remain unanswered.

Recently, theorists have emphasized the need to investigate moral motivation in its own right, as well as its socialization and individual antecedents (Carlo & Pope, 2005; Nunner-Winkler, Meyer-Nikele, & Wohlrab, 2007). Strikingly, there has been little empirical research on these topics to date. Our study attempts to close some of these gaps by investigating these antecedents of moral motivation. This objective is important, because its achievement would provide further insight into why individuals develop the motivation to act morally. To the best of our knowledge, this is the first study to use comparable measures to analyze moral motivation during two different periods of life: mid-adolescence and young adulthood. Such a comparison can provide useful information on the developmentally differentiated roles of socialization and individual antecedents of moral motivation. In contrast to the few previous studies on moral motivation, our study utilizes large, representative samples. This approach has the advantage that individuals from all socioeconomic strata are adequately represented.

Socialization Antecedents of Moral Motivation

This study investigates the perceived quality of relationships with significant others (friends and parents) as socialization antecedents of moral motivation. We have chosen to focus on these relationships because their role in moral development is theoretically unchallenged. From a social-constructivist perspective, it is through individuals' constructive social interactions involving negotiation and the provision of support that their cognitive moral development is transformed (Piaget, 1977/1995). Moral norms, such as justice and fairness, are not simply imposed by society; they are (re-)invented in the context of cooperative, supportive relationships (Müller & Carpendale, 2000, p. 144). It is thus reasonable to assume that the quality of significant relationships strongly influences moral motivation.

From a co-constructivist perspective, egalitarian relationships with friends foster moral development (Youniss, 1980) because they create opportunities for social perspective-taking and discursive exchanges (Keller, 1996). Through the reciprocal experiences of responsibility and support, emotional ties to close friends may help develop the motivation to act fairly (Keller & Edelstein, 1993; Selman, 1980). Particularly in adolescence, the quality of close friendships is likely to provide an experiential background for the growth of moral motivation. This is because the emergence of identity and the related motivational orientation toward fairness and care strongly depend on supportive and close relationships during this developmental period (Erikson, 1959). There has been little research on the role of the quality of friendships in the development of moral motivation. What research there has been suggests that friendship quality has a positive effect on moral reasoning. For example, Walker, Hennig, and Krettenauer (2000) found that in interactions among friends, the elicitation of the other's opinion and checks for understanding promoted the development of moral reasoning in late childhood and mid-adolescence (see also Schonert-Reichl, 1999). The strength of moral motivation depends in part on the complexity of one's moral reasoning ability (Krettenauer &

Edelstein, 1999), because moral motivation requires knowledge of rules as well as reflection on this knowledge. This interconnectedness suggests that moral motivation is likely to be related to the quality of one's relationships with friends.

Theorists in the cognitive-structural and social domain traditions have assumed that a sense of personal responsibility is rooted in the formation of close relationships to significant others, such as parents (Kohlberg & Diessner, 1991; Smetana, 1997). For this study, we conceptualized good parent-child relationships as supportive and characterized by high levels of trust and warmth. Van IJzendoorn (1997) has argued that supportive parents foster emotional autonomy by providing an atmosphere of trust and openness, thereby helping children and adolescents to develop role-taking abilities. This process may later promote trust in one's own moral judgments and foster principled moral reasoning (Arsenio & Gold, 2006). This line of argument is supported by research predicated on the assumption that indicators of supportive parenting, such as warmth, are positively associated with the development of moral reasoning (e.g., Pratt, Skoe, & Arnold, 2004). Nunner-Winkler (2007), however, found no relation between the quality of parent-child relationships in middle childhood and moral motivation in adolescence and young adulthood. Thus, the quality of the parent-child relationship earlier on is not necessarily important for the subsequent emergence of moral motivation. Nevertheless, Malti, Eisenberg, and Buchmann (2008) found that supportive parenting was positively related to the attribution of moral emotions to 6- and 7-year-olds. Supportive parenting, a commonly used indicator of the strength of moral motivation, is measured by asking how frequently a child attributes negative emotions to a hypothetical wrongdoer after the wrongdoer has violated a rule. Although it remains unclear at this point whether the perceived quality of the parent-child relationship is associated cross-sectionally with moral motivation, such a relationship is suggested by the conceptual overlap between moral motivation and moral reasoning.

We were also interested in the role of education in moral motivation. Educational

attainment is part of the socioeconomic milieu in which adolescents grow up. This milieu is reflected in a specific set of rituals that provides both opportunities and implicit philosophies for the development of (moral) competencies in youth (Lareau, 2004). Researchers have stressed that social-class factors, of which education is an example, are important in moral development (Edelstein, Keller, & Schröder, 1990). Nunner-Winkler, Meyer-Nikele, and Wohlrab (2006) were the first to investigate the relationship between education and moral motivation. Their study revealed that level of education is positively related to moral motivation in German adolescents. In the present study, we followed up on this finding by investigating the relationship between education and moral motivation in representative samples of adolescents and young adults in Switzerland.

Individual Antecedents of Moral Motivation

For this study, we chose to examine personal values and personality characteristics as the individual antecedents of the strength of moral motivation. This choice was based on the fact that moral values and personality have only recently been considered in the empirical research in the field, even though they are important for a comprehensive understanding of moral development (Hardy & Carlo, 2005; Walker, 2004). Personal values have been defined as “enduring beliefs that a specific mode of conduct is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence” (Rokeach, 1973, p. 5). These values give meaning to, and are linked to, behavior (Hitlin & Piliavin, 2004). Moral exemplars, that is, people with an extraordinarily high commitment to morality, strongly endorse moral values such as justice and social responsibility. In fact, such values are a major component of their identity (Hart & Fegley, 1995). Blasi (2004) has stressed that the salience of moral values is an important component of morality.

People who place a high value on the norms of fairness and justice are likely to emphasize, and act in conformance with, their moral judgments in many situations. They do so because it helps them remain self-consistent. This conclusion has been supported

empirically. For example, Walker (2004) has shown that ordinary people describe moral exemplars as “principled-idealistic,” a label that highlights the importance that the attributor assigns to strongly held moral values (see Bergman, 2004). In this study, we analyzed the relationship between the importance of social justice and the degree of moral motivation. The importance of social justice was selected because it refers to the welfare of all humanity and thus reflects a core moral concern. Nunner-Winkler et al. (2006) have provided the first evidence that adolescents with strong moral motivation are more orientated toward equality and providing care for people in need than are adolescents with low moral motivation. We followed up on this finding by examining whether moral motivation is enhanced when individuals attach a high degree of importance to social justice.

Further, we investigated the relationship between personality characteristics and moral motivation. Nucci (2004) has pointed out that Blasi’s (2004) concept of integrating morality into one’s personal identity does not necessarily refer to a specific set of noncognitive personality characteristics. On the contrary, we agree with (Haan, 1977) that personality characteristics imply dynamic, integrative systems of self-organization and of social-cognitive and socioemotional functioning. These systems also include intellectual ability, as they involve the capacity to engage in practical, flexible, and context-sensitive reasoning (Prinz, in press). Thus, we do not conceptualize personality characteristics as a nonreflexive set of externally acquired traits, but rather as a complex, internal set of identity-related aspects that are continuously (re)constructed during the course of development. As such, they may be relevant to moral functioning, because they affect how a person interacts with others in a majority of social situations. These social interactions, in turn, may help people to reinvent their choices in situations calling for moral action. Resilient ego functioning, such as emotional stability, agreeableness, conscientiousness, and a sense of responsibility, may therefore relate to an individual’s strength of moral

motivation. On the other hand, defence mechanisms, such as neuroticism, may hinder it (see Matsuba & Walker, 1998). Research has supported a relationship between ego functioning (or, if one prefers, personality characteristics) and moral development. In a longitudinal study, Hart, Keller, Edelstein, and Hofmann (1998) found that ego-resiliency predicted the development of moral reasoning in adolescent. Similarly, Atkins, Hart, and Donnelly (2005) found that children classified as resilient were more likely than children characterized as overcontrolled or undercontrolled to participate in volunteer work when they became adolescents. In these studies, resilience was defined as emotional stability and the ability to modify one's impulse when confronted with situational demands. In a study by Walker (1999), adults described moral exemplars as high on conscientiousness and agreeableness. A study by Carlo, Okun, Knight, and de Guzman (2005) indicated that agreeableness is related to volunteerism. Taken together, these studies provide evidence for the role of personality characteristics that reflect resilient ego functioning (i.e., agreeableness, conscientiousness, and emotional stability) in the development of morality.

Finally, our study is the first to compare moral motivation in mid-adolescents and young adults. Adolescence is the stage of life when the moral self and the related moral motivation are established (Blasi, 2004), as well as a stable identity. From a developmental perspective, then, one may expect to find an increase in moral motivation when adolescents enter adulthood, because that is when they learn to accept that obligations are binding. They also begin to integrate the norms of fairness and care into their self-concepts, both personally and morally. So far, however, these plausible hypotheses about the development of moral motivation have not been confirmed empirically.

Hypotheses

We chose to investigate the role of socialization factors (i.e., quality of close friendships, the parent-child relationship, educational attainment) and individual factors (i.e., the value placed on social justice and personality characteristics) in the development of moral

motivation in adolescents and young adults. Based on the results of research examining the association between relationship quality and moral reasoning, we hypothesized that the quality of friendships and the quality of the parent-child relationship are positively related to moral motivation. We also expected that relationship quality is more strongly related to moral motivation in adolescence than in young adulthood, because identity development and the associated motivations depend strongly on the development of relationships with significant others during adolescence (Erikson, 1959). Based on the previous study by Nunner-Winker et al. (2006), we hypothesized that education level is positively associated moral motivation. As for individual differences, we hypothesized that the value one places social justice, as well as the personal characteristics of agreeableness, conscientiousness, and emotional stability, are positively related to moral motivation. Finally, because of the increasing connection between personal identity and moral development over time, we expected moral motivation to be higher in young adults than adolescents.

We controlled for basic structural indicators of the socio-economic milieu and migration background of the participants as well as cognitive ability, because research has shown that these variables are related to moral development (Edelstein et al., 1990). We also controlled for sex, as Nunner-Winkler et al. (2007) found that females display higher moral motivation than males.

Method

The data were taken from the first wave of a representative longitudinal survey of children and adolescents living in Switzerland (Buchmann et al., 2007). Specifically, we investigated the life course and the development of competence in three age groups (6 years-old, 15 years-old, and 21 years-old). The present analysis is based on the data from the 15- and 21-year-olds, who were surveyed in spring 2006. A representative random sample was drawn from the German- and French-speaking parts of Switzerland. There were 131 communities selected, broken down by size and type. The group members

residing in the selected communities were then randomly sampled on the basis of information provided by the official register of residents. The final response rates were 63 percent for the 15-year-olds and 50 percent for the 21-year-olds. For statistical analysis, the samples were weighted to correct for nonresponse, as well as for an overrepresentation of some community types and a moderate underrepresentation of lower educational strata, nationalities, and community types.

Participants

The final sample consisted of 1,258 adolescents with an average age of 15.30 years ($SD = 0.21$; 54% girls), and 584 young adults with an average age of 21.30 years ($SD = 0.20$, 53% girls). Furthermore, 1,056 primary caregivers, predominantly mothers (89%), were linked to the adolescent sample.

Among the 15-year-old adolescents, 80% were Swiss, 18% were of other European nationalities, and 2% were non-European. Of the parents, 32% had secondary education or less, 44% had vocational training or college, 15% had a higher vocational diploma, and 9% had a university degree. As for family composition, 82% of the adolescents were living with both parents, and the average number of siblings was 1.70 ($SD = 1.12$).

Among the 21-year-old adults, 79% were Swiss, 17% were of other European nationalities, and 4% were non-European. Of the parents, 38% had secondary education or less, 43% had vocational training or college, 11% had a higher vocational diploma, and 8% had a university degree. As for family composition, 84% of the primary caregivers were married and the average number of siblings was 1.88 ($SD = 1.26$).

Procedure

Written informed consent for testing was obtained from the participant and (for the 15-year-olds) from the primary caregiver. All participants were given a computer-assisted personal interview (CAPI) in a quiet room at their home. The interview lasted about 60 minutes and contained questions on the participant's social development, as well as on the

most important socialization conditions. Forty-two interviewers conducted the interviews of the 15-year-olds, and 40 interviewers conducted the interviews of the 21-year-olds. The interviewers were recruited from a professional research institute specializing in social-science interviews and had been trained by the research team in the interview techniques. The primary caregivers were given a questionnaire on adolescent social development, which they filled out and mailed back to the research institute.

Measures

All the measures were translated from German into French by bilingual French and German speakers, retranslated and modified by the research team if necessary. A pilot study with 236 15-year-old adolescents was conducted to test the validity of the vignettes on moral development and other measures concerning adolescent development. The final measures were developed on the basis of results from a pilot study.

Moral motivation. Strength of moral motivation was assessed by a previously validated measure consisting of hypothetical moral dilemmas. They included action decisions, attributions of emotion, and justifications for both (Nunner-Winkler et al., 2006, 2007). Two dilemmas of medium gravity involving the temptation to transgress well-known moral rules for personal benefit were chosen, based on the following criteria: First, the structure of the conflict had to be familiar to the participants. Second, the story had to involve clear moral issues. Third, the immoral action decision had to be easily justified, and the participant could refer to the normality of the transgression (e.g., maximizing personal profit is common in the business world; Nunner-Winkler et al., 2007, p. 33). Finally, the characters and events in the stories had to be ones that both sexes could identify with equally and that do not evoke gender stereotypes. For example, neither story involved the conflict between a prosocial moral duty and the accumulation of power. The characters in the story were always of the same sex as the participant, and the order of the stories was counterbalanced to avoid order effects.

In the first story, the participants were read the following text: “Imagine you offered your bike for sale. You want to sell it for 500 Swiss Francs. A young man is interested. He bargains with you and you agree on 420 Swiss Francs. Then he says: ‘Sorry, I don’t have the money on me; I’ll quickly run home to get it. I’ll be back in half an hour.’ You say: ‘Agreed, I’ll wait for you.’ Shortly after he is gone, another customer shows up who is willing to pay the full price.” In the second story, the participants were read the following text: “Imagine that you have found a purse with 150 Swiss Francs in it and an identity card of the owner” (Krettenauer & Eichler, 2006).

After reading each story, the participants were asked (a) what they would do (action decision), (b) how they would feel about doing it (attribution of emotion), and (c) why they would do it and feel this way about it (justification).

The action decision was coded as moral (i.e., wait for the first customer, bring the purse to lost and found) or pragmatic (i.e., take the money, take the purse). The question about the attribution of emotion was open-ended. Participants were asked to report the emotions they would attribute to themselves, based on the following three categories (created afterwards): bad /mixed, good, and neutral. For justification, a revised coding system derived from Nunner-Winkler et al. (2007) was used. It consisted of two categories: (a) moral/empathic: reference to moral principles or rules, such as justice, fairness, or honesty (e.g., “One should always keep his or her promise; it is otherwise unfair”) and (b) pragmatic: expression of an exclusive interest in personal profit or avoidance of sanctions (e.g., “He profits greatly from that”).

For the 15-year-olds, 129 of the 1258 interviews (10%) were coded by two independent coders, yielding an interrater reliability of $\kappa = .97$. For the 21-year-olds, 66 of the 584 interviews (11%) were coded by the same two independent coders, yielding an interrater reliability of $\kappa = .91$. Disagreements were discussed and common decisions reached.

The scores for action decisions, attribution of emotion, and justification were combined as follows to create the final measure of moral motivation (Nunner-Winkler et al., 2006, 2007). First, the stories were coded. A story was assigned the highest rating (2) if the participant made a moral (as opposed to a pragmatic) decision and attributed either positive or negative emotions for moral reasons. (Less than 1% of the participants decided to act morally and justified this decision with pragmatic reasons). If the participant made a pragmatic decision but felt bad about it for moral/empathic reasons, it was scored as 1. The lowest rating (0) was assigned when the participant made a pragmatic decision, felt good or neutral about it, and justified it with a pragmatic argument. After the coding, the scores of the two stories were combined.

This scoring procedure follows the conceptualization of strength of moral motivation as prioritizing moral considerations over nonmoral desires (Nunner-Winkler, 1999; Frankfurt, 1993). Strong moral motivation implies the willingness to (almost) always abide by a moral rule that one understands to be valid, despite the presence of nonmoral desires. Medium moral motivation is more cost-benefit oriented (“I do the right thing if it doesn’t cost too much”). Weak moral motivation is reflected in the choice to (almost) always give nonmoral desires priority over moral considerations (Nunner-Winkler, personal communication, May 30, 2008). Thus, the highest combined score (3) was assigned if in both stories the participant decided to act morally and justified the decision morally. If a participant decided one story morally but decided the other story pragmatically, and felt bad about the latter decision for moral reasons, the combined score was 2. The combined score was 1 if (a) the participant made pragmatic decisions for both stories but felt bad about those decisions for moral reasons, *or* (b) the participant judged one story morally and the other pragmatically, followed with the attribution of positive emotions and pragmatic justifications, *or* (c) the participant decided both stories pragmatically and only one of these was followed by the attribution of negative emotions

and moral justifications. Finally, the combined score was 0 if the participant judged both stories pragmatically, felt good or neutral about the judgments, and justified these attributions with pragmatic arguments. Thus, each participant was assigned a single strength-of-moral-motivation score ranging from 0 (*low strength*) to 3 (*high strength*).

Perceived quality of friendships. Revised versions of four items from Parker and Asher (1993) were used (e.g., “My friend and I trust each other’s advice”; “My friend and I tell each other private things”). Because of our characterization of good relationships as involving support and intimacy, we decided to include two items from the help and guidance subscale and two items from the intimate exchange subscale.

The higher the score, the better the friendship. The questions asked only if the participant had a best friend, and almost all (99.6% of the 15-year-olds, and 97.4% of the 21-year-olds) reported that they did. The items were rated on a 6-point scale from *never* to *always*. The reliabilities of the mean scale scores were $\alpha = .61$ for the 15-year-olds and $\alpha = .75$ for the 21-year-olds.

Perceived quality of the parent-child relationship. The participants answered four revised items from the German version of the Supportive Parenting Scale (Buchmann et al., 2007). For example, “How often does your primary caregiver let you feel that he or she deeply trusts you?” The items were answered on a 6-point-scale from *never* to *always*. The reliabilities of the mean scores were $\alpha = .73$ for the 15-year-olds and $\alpha = .78$ for the 21-year-olds. The primary caregivers of the 15-year-olds responded to the same four items ($\alpha = .65$). As the self-ratings and primary-caregiver ratings were significantly related, $r(1019) = .33, p < .001$, an aggregate mean score was created for the 15-year-olds. Higher scores indicate a better parent-child relationship.

Education. Educational background was defined in terms of participants’ attained grade level in school. The measure consisted of two dummy-coded variables, with a 1 indicating the occurrence of the respective education level. First, a variable that distinguished

between high school tracks that provide for the educational credential providing eligibility for university entry and those that do not (Mittelschule versus rest). Second, a variable that distinguished between schools from the lower tracks and others (Realschule and lower versus rest). Twenty-four percent of the 15-year-olds and 29% of the 21-year-olds were in the lower tracks, whereas 12% of the 15-year-olds and 11% of the 21-year-olds were in the high track.

Value of social justice. The personal importance of social justice was measured by revisions of three items taken from previous longitudinal studies (Buchmann et al., 2007). For example, “How important is it for you to treat others fairly and just.” Participants were asked to rate on a scale from 1 to 10 how important each value is in their life. For 15-year-olds, $\alpha = .58$, and for 21-year-olds, $\alpha = .56$. Higher scores indicate more importance attached to social justice.

Personality characteristics. A validated bipolar adjective checklist was chosen to assess the Big Five personality dimensions (i.e., agreeableness, conscientiousness, emotional stability, extraversion, and openness; Buchmann et al., 2007), using three pairs of contrasting adjectives for each of the five personality dimensions (e.g., “agreeable versus irritable”). The items were answered on a 6-point scale, higher scores indicating greater presence of the personality characteristic. Following the research design of the COCON study, primary-caregiver reports were used to assess the personality characteristics of the 15-year-olds, whereas self-reports were used to measure the personality characteristics of the 21-year-olds. (Cronbach’s α s for the 15- and 21-year-olds ranged from .58 to .81; Buchmann et al., 2007). Extraversion and openness were not considered further, because they do not necessarily resemble characteristics related to resilient ego functioning. Openness was measured with creativity items.

Cognitive ability. As a control variable, respondents’ cognitive competences were assessed using the half subscale 2.4 of Weiß’s (1998) Culture Fair Intelligence Test (CFT-20). Higher scores indicate higher cognitive competences.

Results

Descriptive Statistics

To test for sex differences in the study variables, ANOVAs were conducted for each age group (see Table 1, for means and standard deviations of the study variables by age group and sex). We tested sex differences separately for each age cohort, because not all measures were comparable across age cohorts. Preliminary analyses indicated no age differences in moral motivation. As Table 1 indicates, females in both age cohorts reported higher moral motivation, quality of friendships, and importance of social justice than males. Regarding personality characteristics, females were less emotionally stable and more conscientious than males in both age cohorts. Among the 21-year-olds, females were less educated than males (females: 23%, males: 35%), $\chi^2(1, 582) = 9.47, p < .01$; there was no significant difference among the 15-year-olds (females: 23%; males: 26%), $\chi^2(1, 1241) = 1.66$.

The correlations between the study variables for the 15-year-olds are summarized in Table 2. In the text, we report only correlations $\geq .10$, because correlations $< .10$ are considered to represent a small effect size (Valentine & Cooper, 2003).

For the 15-year-olds, the strength of moral motivation is positively associated with the quality of parent-child relationships, importance of social justice, and it is greater for females. Friendship quality is positively related to the importance of social justice and is also higher for females than for males. The quality of the parent-child relationship is positively related to the importance of social justice, agreeableness, conscientiousness, and emotional stability. High education level is positively associated with emotional stability. Low education level was negatively associated with the importance of social justice. The latter is positively associated with all personality characteristics and higher for females. Females scored higher than males on conscientiousness. All the personality characteristics are significantly intercorrelated.

The correlations for the 21-year-olds reveal that the strength of moral motivation is positively associated with the quality of friendships, importance of social justice, and agreeableness, and it is negatively related to emotional stability; males scored higher than females (Table 3). Friendship quality is positively associated with the quality of the parent-child relationship, importance of social justice, agreeableness, and conscientiousness, with females scoring higher than males. The quality of the parent-child relationship is positively related to the importance of social justice, agreeableness, and conscientiousness. Low educational level is positively related to conscientiousness and is higher for males than for females. The importance of social justice is positively related to agreeableness and conscientiousness, and it is higher for females. Agreeableness is positively associated with conscientiousness and emotional stability. Females score higher on conscientiousness and males score higher on emotional stability.

Prediction of Strength of Moral Motivation by Socialization and Individual Antecedents

Separate regression analyses were performed for the two age groups. The moral motivation scores of the 15-year-olds and of the 21-year-olds, respectively, were entered as the dependent variables.

The independent variables were entered stepwise (see Table 4). Sex was entered in the first step; quality of friendship, quality of the parent-child relationship, and education level were entered in the second step; the importance of social justice and the personality dimensions were entered in the third step. Several control variables were also added to the regression models: an index code for interview quality as rated by the interviewers was entered in the first step; structural variables indicating the socio-economic milieu and migration background of participants were entered in the second step; cognitive ability was entered in the third step.

Preliminary analyses indicate no significant moderating effects of sex and these analyses were not considered in the final set of analyses.

Both models yield medium effect sizes, Cohen's $f^2 = .11$. Among the 15-year-olds, moral motivation is positively related to the quality of the parent-child relationship and importance of social justice. It is higher for females than for males. Among the 21-year-olds, moral motivation is positively associated with the quality of friendships, importance of social justice, and agreeableness. It is also higher for females than for males.

Discussion

The present study is the first to investigate the role of socialization and individual antecedents of moral motivation in representative samples of two age cohorts representing prototypical life stages: mid-adolescence and young adulthood. The study is novel in its scope but also exploratory, so the results need to be followed up. Nonetheless, the study provides useful information on the under-researched topic of moral psychology, i.e., the strength of moral motivation.

First, we analyzed moral motivation (i.e., quality of relationships with friends and caregivers, educational attainment) as a function of socialization. An important finding was a positive relationship between the perceived quality of close friendships and moral motivation among the 21-year-olds. It was surprising that this relation was limited to the older age cohort, as close friendships are considered to be the basis of adolescent morality (Bukowski & Sippola, 1996; Keller, 1996). The finding also seems to contradict previous research on the impact of constructive and supportive friendship interactions on adolescents' moral reasoning (e.g., Walker et al., 2000). As we focused on the perceived quality of close friendships rather than observed quality of mutual interactions between friends, the different findings from the two studies may relate to these measurement differences. Presumably, our measure of perceived quality of friendship relation is more indicative for an individual orientation towards support and care in close friendship relationships than of experiences of mutually reciprocal emotional support. Nonetheless, our data indicate that the quality of the relationship with the primary caregiver is more important to adolescent's moral motivation

than is the perceived quality of the friendship. This finding is interesting, as the parent-child relationship has been shown to become more conflict-laden during early to mid-adolescence, albeit only temporarily (Laursen, Coy, & Collins, 1998). However, the adolescents in our sample did not perceive the relationship to their primary caregiver to be any poorer than did the young adults. Thus, both groups perceived their relationship with the caregiver to be close and positive. This may in turn create a positive atmosphere for moral growth (van IJzendoorn, 1997). The perceived quality of the relationship to the caregiver did not affect the moral motivation of the young adults. Although this finding indirectly contradicts some related longitudinal research on the impact of early supportive parenting on young adults' care reasoning (e.g., Pratt et al., 2004), it is in line with the findings of Nunner-Winkler (2007), who failed to find any impact of early childhood family socialization on moral motivation in young adulthood. We think this finding makes sense, because young adults often have already resolved their conflicts surrounding autonomy and interdependence, and thus they do not usually depend as much on the quality of their relationship to the primary caregiver as adolescents might. Identity and related moral development are presumably related more strongly to the quality of interactions with close friends.

Contrary to our expectations, there were no relations between education level and moral motivation. These findings contradict those of Nunner-Winkler et al. (2006), who found that 16-year-olds from the highest educational track displayed higher moral motivation than 16-year-olds adolescents from the lowest educational track. The difference in results is possibly due to our use of representative data samples, whereas Nunner-Winkler et al. (2006) only compared students in the lowest and highest education tracks. Nunner-Winkler (2007) also found no relationships between social class and strength of moral motivation in a longitudinal sample of German children. Perhaps educational levels have a greater impact on the cognitive components of morality (i.e., the ability to make moral judgments) than on moral motivation.

The importance attached to social justice predicted moral motivation in both age cohorts. This finding validates those of Nunner-Winkler et al. (2006), who showed that adolescents highly value both moral motivation and social justice and that these high valuations carry over into young adulthood. The two studies together provide empirical support for the argument that the strength of motivation to act upon rules is associated with the extent to which one values justice, incorporates this value into one's identity, and draws on it as a basis for moral behavior (Blasi, 2004; Knafo, Daniel, & Khoury-Kassabri, 2008).

Further, we examined the role of personality characteristics in moral motivation. Personality characteristics were defined as representing a complex system of self-organization and of social-cognitive and socio-emotional functioning that is continuously (re)constructed during development (Noam, 1992). Young adults' strength of moral motivation was found to be positively related to agreeableness and negatively related to emotional stability. The multivariate findings for the 21-year-olds suggest that only agreeableness is related positively to moral motivation in this age cohort. There is empirical evidence that moral exemplars reflect characteristics such as agreeableness and conscientiousness (Matsuba & Walker, 2004; Walker, 2004). Our finding of a relationship between agreeableness and moral motivation in the 21-year-olds is in line with this research in the U.S. and thus cross-culturally validates the hypothesis that agreeableness is important for moral motivation. This finding is reasonable, as high agreeableness reflects an orientation toward others' welfare, and it is presumably the personality characteristic that most closely resembles a moral orientation. Personality characteristics such as agreeableness are potentially more important for the moral motivation of young adults than for that of adolescents, because young adulthood is a time when morality is assumed to be more fully integrated into personhood (Blasi, 2004). However, the findings from the two regression models in the present study cannot be directly compared, because different informants were used to rate the personality characteristics of the two age groups.

It is noteworthy that we found no age differences in moral motivation. We expected moral motivation to be higher in young adults than in adolescents, because identity and moral development tend to become increasingly well coordinated during this period. As ours is the first study to explore developmental differences in moral motivation, we can only speculate about possible reasons for this lack of age differences. On the one hand, research on adult moral exemplars supports the high stability of moral motivation over time (e.g., Colby & Damon, 1992). Morality may constitute the very personhood of these exemplars (Nunner-Winkler et al., 2007). Individual differences in the strength of moral motivation may be related to how people integrate moral motivation into their identity rather than to chronological age. It will therefore be instructive to follow up our adolescents longitudinally and investigate the intra-individual development of moral motivation. The oldest participants in our study were 21 years of age, and it might well be that moral motivation does not begin growing until later, when young people have developed a strong sense of identity and moved to a more emotionally mature adulthood, which doesn't manifest until the early 30s in many Western countries (Arnett, 2000). On the other hand, these older adults may not only integrate moral motivation into their identity at an accelerated pace; they may also increasingly differentiate their understanding of when it is important to act morally and when not. Future longitudinal studies using vignettes depicting a wide range of situations may shed light on the validity of this speculation.

Interestingly, females scored higher on moral motivation than males in our study. Although this finding needs to be interpreted very cautiously, as we used only two vignettes, it is in line with the findings of Nunner-Winkler et al. (2007) and extends them to young adulthood. The latter study used vignettes that are structurally similar to ours (although there were more of them). Our findings are thus not simply measurement artefacts, a conclusion that is also supported by findings of sex differences in moral motivation in a representative longitudinal sample of children (Malti, Gummerum, Keller,

& Buchmann, in press). Nunner-Winkler et al. (2006, 2007) interpreted their sex differences in terms of how people anchor morality in their personality. For example, females with a high sex-role orientation may not experience a decrease in moral motivation, because female role expectations (e.g., nurturance) are compatible with morality. In contrast, males who identify with typical male attributes, such as success and power, may be less concerned with morality and social justice than other males. More recently, Turiel (2002) has proposed a somewhat different explanation, namely, that differences in morality may be related to differences in men's and women's standing in the social hierarchy. People with low power and low status in the social hierarchy may be morally sensitized to issues of unfairness and inequality. In general, women's legal status is equivalent to that of men in Switzerland. Nonetheless, their occupational opportunities still lag behind those of men (Buchmann & Kriesi, in press). This occupational segregation by sex is responsible, for example, for women's lower pay, lower occupational status, and lower social status. Sex differences in moral motivation may be associated with these inequities in Swiss society. Further research on how societal inequality affects women's and men's moral motivation is needed.

Finally, several limitations of our study should be noted. First, only two vignettes were used to assess the strength of moral motivation. As social domain researchers have shown that moral development depends on context (e.g., Smetana, 2006), the reliability of this methodological approach is restricted. However, Nunner-Winkler et al. (2007) obtained overall rather similar results to ours using a wider range of vignettes to measure the strength of moral motivation. Given the large-scale character of our study, we also had to restrict the qualitative measures of morality to a realistic number in terms of later coding, and the two vignettes were carefully chosen and tested in a pilot study. The two vignettes we did use were carefully chosen and tested in a pilot study. Further, previous studies have provided evidence for the reliability of using only two vignettes to assess moral motivation

(e.g., Malti et al., in press). Second, our analyses indicated only low to moderate reliability in some of our test measures. These measures were predominantly self-reports, which are susceptible to social desirability response bias. Further validation of our results in multi-informant studies is therefore warranted. Third, we used different informants to rate the personality characteristics of the two age groups. We were thus not able to draw conclusions about age differences in the relationship between personality characteristics and moral motivation. Fourth, the effect sizes from the multivariate models predicting strength of moral motivation were only moderate. This finding suggests that variables not accounted for in the present analyses are likely to be important for the development of moral motivation. Fifth, as our study incorporated only a cross-sectional design, it must be considered exploratory. The causes of the relation between moral motivation and the quality of family and friendship relationships remain unclear. Future studies employing longitudinal designs would be particularly helpful in further disentangling the impact of socialization and individual differences on the development of moral motivation.

In conclusion, the study at hand makes a significant contribution to our understanding of the development of moral motivation, because it is the first that analyzed moral motivation in two different life-decades with comparable measures: mid-adolescence and young adulthood. It also methodologically extended the few previous studies on adolescents' moral motivation by utilizing large, representative Swiss samples. This sampling procedure provided the opportunity to assess moral motivation and its precursors across different (sub)populations and might therefore help to validate previous findings that used the more common North American middle-class samples. Furthermore, our findings provided the first empirical evidence for the importance of supportive relationships and individual differences in the development of moral motivation. In regard to the relationship between supportive relationships and moral motivation, our findings indicated that the quality of the parent-child relationship is important for adolescents' moral motivation,

whereas the quality of the friendship relationship has a significant impact on young adults' moral motivation. In regard to individual antecedents of moral motivation, our findings showed that the importance of social justice is positively related to moral motivation in both age cohorts. By documenting developmental differences and similarities in the relationship between moral motivation, supportive relationships, and individual factors, the study makes a major contribution to our understanding of the specific developmental precursors of moral motivation and the related evolving moral self. Further research that sheds light on the complex processes involved in the development and socialization of moral motivation awaits.

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Table 1

Means (Standard Deviations) of Study Variables by Age Group and Sex

	15-year-olds ($N = 1,258$)				21-year-olds ($N = 584$)			
	Female	Male	Effect size (d)	Total	Female	Male	Effect size (d)	Total
Strength of moral motivation	2.26*** (0.82)	2.07 (0.92)	0.21	2.17 (0.88)	2.32*** (0.78)	2.06 (0.89)	0.32	2.19 (0.84)
Friendship relationship	5.68*** (0.49)	5.15 (0.71)	0.87	5.42 (0.66)	5.76*** (0.45)	5.53 (0.65)	0.41	5.64 (0.57)
Parent-child relationship	5.21 (0.64)	5.17 (0.56)	0.07	5.19 (0.60)	5.08 (0.90)	5.00 (0.82)	0.09	4.43 (0.70)
Importance of social justice	8.84*** (1.21)	8.41 (1.20)	0.35	8.64 (1.22)	8.94*** (1.12)	8.61 (1.25)	0.27	8.78 (1.20)
Agreeableness	4.50 (0.87)	4.40 (1.10)	0.10	4.45 (0.99)	4.67 (0.82)	4.65 (0.73)	0.02	4.65 (0.78)
Conscientiousness	4.51*** (1.04)	4.03 (1.29)	0.41	4.29 (1.19)	4.58** (0.86)	4.36 (0.99)	0.24	4.47 (0.93)
Emotional stability	4.16* (0.85)	4.30 (1.08)	0.14	4.23 (0.97)	3.72*** (0.89)	4.56 (0.72)	1.04	4.14 (0.91)

Note. The significance notations are for t tests comparing females and males for the two age cohorts.

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

Table 2

Correlations Between Study Variables for 15-year-olds (N = 1,258)

	1	2	3	4	5	6	7	8	9	10
1 Strength of moral motivation	--									
2 Friendship relationship	.05	--								
3 Parent-child relationship	.10**	.05	--							
4 High education level	.01	-.06*	.03	--						
5 Low education level	.01	.03	.02	-.20***	--					
6 Importance of social justice	.14***	.21***	.10**	-.01	-.16***	--				
7 Agreeableness	.09**	-.02	.38***	.03	-.03	.12***	--			
8 Conscientiousness	.07*	.03	.31***	.02	-.04	.14***	.47***	--		
9 Emotional stability	.02	.01	.22***	.11**	-.04	.11**	.48***	.40***	--	
10 Sex	-.11***	-.40***	-.03	-.01	.04	-.18***	-.05	-.20***	.07*	--

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

Table 3

Correlations Between Study Variables for 21-year-olds (N = 584)

	1	2	3	4	5	6	7	8	9	10
1 Strength of moral motivation	--									
2 Friendship relationship	.16***	--								
3 Parent-child relationship	.03	.10*	--							
4 High education level	.01	-.06	.04	--						
5 Low education level	-.03	.00	.01	-.22***	--					
6 Importance of social justice	.19***	.25***	.15***	-.06	-.07	--				
7 Agreeableness	.13**	.11**	.16***	.05	.03	.30***	--			
8 Conscientiousness	-.01	.11*	.11**	-.03	.10*	.10*	.11*	--		
9 Emotional stability	-.11**	-.03	.07†	.02	.02	-.06	.12**	.06	--	
10 Sex	-.16***	-.20***	-.05	-.06	.13**	-.14**	-.00	-.12**	.46***	--

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

Table 4

Results of the Hierarchical Linear Regression Analysis Predicting the Strength of Moral Motivation of 15-year-olds and 21-year-olds

Independent variables	Strength of moral motivation 15-year-olds ($N = 1,258$)		Strength of moral motivation 21-year-olds ($N = 584$)	
	β	$R^2 / \Delta F$ for step / f^2	β	$R^2 / \Delta F$ for step / f^2
Step 1		.02 / 7.59** / .02		.02 / 5.95** / .02
Sex	-.14***		-.15**	
Step 2: Socialization antecedents		.07 / 2.76*** / .08		.07 / 1.84* / .08
Friendship relationship	-.02		.10*	
Parent-child relationship	.11**		-.02	
High education level	-.01		.03	
Low education level	-.05		-.04	
Step 3: Individual antecedents		.10 / 3.54** / .11		.10 / 2.84* / .11
Importance of social justice	.14***		.12*	
Agreeableness	.03		.10*	
Conscientiousness	-.02		.03	
Emotional stability	-.07		-.05	

Note. Models are controlled for interview quality, indicators of socio-economic milieu of participants, and cognitive ability.

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