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# Examining Secondary School Choice Processes as a Predictor of Adjustment After the School Transition

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The secondary school transition is an important moment in adolescents' lives. Taking a prospective approach, the present study examined whether educational identity regarding a secondary school choice and own and parental expectations during the last year of primary school predicted post-transition school and psychological adjustment in Dutch adolescents ( $N = 314$ ,  $M_{\text{age}} = 11.58$ ). Additionally, the study qualitatively examined the reasons adolescents gave for their school choice, and linked these reasons to exploration behavior and post-transition adjustment. Identity processes and expectations predicted adjustment. Adolescents mostly reported multiple reasons for their school choice, with educational, practical, and social aspects of secondary schools appearing most important. The number of reasons mentioned was associated with pre-transition exploration behavior.

Key words: adolescence – secondary school transition – school choice – identity – adolescent and parental expectations

Transitioning from primary to secondary school is an important moment in young people's lives, and in the Western world it is often seen as the starting point of adolescence (e.g., Pratt & George, 2005; Zeedyk et al., 2003). Given this importance, it is not surprising that the transition to secondary school can have a strong and in some cases even detrimental impact on adolescents' school adjustment (Martínez et al., 2011; Wigfield et al., 2006) and mental health (e.g., Hanewald, 2013; Symonds & Galton, 2014). Importantly, this impact may persist throughout secondary school, putting adolescents on persistent pathways of negative or positive adjustment (Eccles et al., 1997; Nelemans et al., 2018). As such, it is important to timely identify adolescents who are at risk of negative adjustment in their new school. One factor that may predict adolescents' adjustment in secondary school is the extent to which they have explored the different school options and have committed to their new school.

Identity processes such as commitment and exploration in the school domain have been linked to many important educational and psychological phenomena, such as educational performance (Pop

et al., 2016), having to repeat a grade (De Moor et al., 2019), and internalizing and externalizing pathology (e.g., Crocetti et al., 2012). However, such studies have often examined educational identity once a school or education was already chosen, whereas theory suggests that identity questions become especially salient across transition moments (Bosma & Kunnen, 2001; Branje et al., 2021). The present study examined how the process of choosing a school and forming one's educational identity is related to important educational and psychological outcomes.

The present study had two goals. First, the study quantitatively examined whether educational identity predicts adolescents' secondary school adjustment, as indicated by school functioning, school engagement, and school belonging, and psychological adjustment, as indicated by adolescents' internalizing and externalizing problems. Educational identity was conceptualized as a focused choice process regarding secondary school education in which adolescents explore their qualities, interests, and options in order to formulate a secondary school commitment. In addition, we examined the predictive effects of own and parental expectations regarding secondary education on post-transition adjustment. Second, to better understand why adolescents make the decision for a

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school, the present study qualitatively explored the reasons they gave for their school choice.

### Primary-to-Secondary School Transition Adjustment

The transition from primary to secondary school is often accompanied by many changes, such as different classrooms and a bigger school building, more and different peers, more homework, and a variety of teachers. During the same time, adolescents may also experience several developmental changes, such as pubertal development (e.g., Mul et al., 2001), increased autonomy from parents (Zimmer-Gembeck & Collins, 2006), and a greater orientation toward peers (Fuligni & Eccles, 1993). These changes might elicit changes in adolescent adjustment. In terms of school adjustment, adolescents on average experience a decline in school belonging, school engagement, and ultimately even school performance following the transition to secondary school (Martínez et al., 2011; Wigfield et al., 2006). This may be the case because secondary schools do not match the individual needs of the adolescent (person-environment fit; e.g., Symonds & Galton, 2014) or the developmental stage that they are in (stage-environment fit; Eccles & Midgley, 1989; Eccles et al., 1993). The school transition does not only affect how well adolescents do in school, but also how they feel more generally. After the transition, many adolescents report poorer mental health and lower wellbeing (Hanewald, 2013; Symonds & Galton, 2014). Although many youths show poorer post-transition adjustment, some youth also develop in more positive ways. Indeed, the transition to secondary school may set adolescents on persistent pathways of negative or positive school and psychological adjustment across secondary school (Eccles et al., 1997; Nelemans et al., 2018).

Individual differences in adolescents' adjustment after the transition from primary to secondary school may be especially prominent in Dutch adolescents compared to adolescents from some other countries. This is the case because in the Dutch educational system, at the end of primary school adolescents receive an advice for an educational level based on their scores on a standardized test and their teacher's evaluation of their abilities. The educational levels can roughly be divided in low (vocational), medium, and high (theoretical) education, and some schools offer multiple levels of education. Dutch adolescents are then free to choose a school within the boundaries of their educational

advice. At the same time, this means that adolescents—together with their parents—*have* to choose at the end of primary school to which school they want to go. The choice for one school or another may be made on the basis of several reasons, such as proximity, levels the school offers, and school climate, and may impact adolescents' later educational and psychological functioning.

Based on the notion of person-environment or stage-environment fit (e.g., Eccles et al., 1993), it is possible that adolescents who are better able to choose a school that fits with their individual and developmental needs, will fare better after the school transition than adolescents who choose schools less fitting with their needs. Some evidence for a relation between fit and adjustment outcomes was found in a study on Australian adolescents (Waters et al., 2010). In this study, youth who experienced a greater connectedness to their secondary school reported better educational and psychological outcomes at a later point. Similarly, adolescents who make a school choice that maximizes the person- and stage-environment fit may also report better post-transition adjustment. This may be true even when choices are restricted; adolescents who are able to explore their motives and preferences and may thus make a volitional choice to attend a certain school might fare better and experience higher school functioning. Additionally, in the Dutch context the intellectual fit is also important, as inaccurate or diverging advice in primary school may put adolescents in an educational climate that is either too easy or too difficult for them. This possibility may also put pressure on adolescents to perform better in the pre-transition year, either to live up to own expectations or those of others (e.g., higher level advice given by teacher than expected). Experiencing lower intellectual fit may in turn also result in lower school adjustment (e.g., for adolescents in a climate that is not challenging enough for them; Kanevsky & Keighley, 2003; Matthews, 2009). However, most studies examining the transition to secondary school have focused only on the period after the transition (for a recent overview, see Jindal-Snape et al., 2019), leaving it unclear how the pre-transition process of exploring different educational options and choosing a school may affect post-transition adjustment.

### Educational Identity and Post-Transition Educational and Psychological Adjustment

The exploration of different educational options and commitment to one option can be captured by

educational identity. Adolescence is commonly seen as the period in which youth begin to develop a sense of who they are and what they want in life (Erikson, 1950). This sense of identity develops across multiple domains in life through exploration of different alternatives and the making of commitments, and during this period the educational domain is considered one of the most salient for adolescents (Crocetti, 2017; Meeus, 2011). Educational identity—or closely related, academic identity—refers to exploration and commitment processes related to aspects of adolescents' educational experience (e.g., Becht et al., 2016), and includes norms and values about school, educational attitudes, and possible educational goals (e.g., getting a certain secondary school diploma, being able to go to university; Nurra & Oyserman, 2011; Oyserman, 2013). The educational identity domain is generally considered a “closed” identity domain (Meeus et al., 1999), because restrictions are imposed on identity exploration and choices in this domain. For instance, after an adolescent has transitioned to secondary school, their options for changing schools are rather limited for the next few years. This is in contrast to “open” identity domains such as the friendship domain, for which adolescents are free to explore alternative options, and make and abandon existing commitments (e.g., Albarello et al., 2018). Considering the restrictions that are generally in place in closed domains, it is especially important to ask questions regarding identity at the right moment because of the (lack of) saliency of identity questions.

As may be expected, educational identity is related to educational outcomes. Educational identity has been found to be a marker of school performance, and even underperformance, as adolescents with a less strong identity are more likely to have to repeat a grade (De Moor et al., 2019), and adolescents who have a stronger educational identity have a greater motivation for doing well in school (Oyserman & Destin, 2010; Roeser et al., 2012). In turn, motivation for school has been linked to making a greater effort for school (e.g., Kim et al., 2015; Zhang, 2009). Interestingly, the reverse is also true, with bad performance leading to a decrease in educational identity (Pop et al., 2016), perhaps through lowered motivation. To the best of our knowledge, only one study examined identity and educational outcomes in the context of the school transition context.

The associations between educational identity and psychological outcomes are even more well-

researched than those with educational outcomes, and problems in educational identity have been linked to both internalizing and externalizing psychopathology. This is thought to be the case because experiencing identity uncertainty brings along feelings of distress (Erikson, 1968), which may in turn lead to more serious psychological pathology. In particular, commitment to education has been associated with less problems (e.g., Crocetti et al., 2012, 2013) while exploration behavior may have a more dual nature, having been linked to both adaptive and maladaptive outcomes in past work (e.g., Crocetti et al., 2008).

One important caveat of past research is that educational identity was often examined in relation to school very broadly (e.g., “My school gives me certainty in life”), without a specific school situation in mind. Moreover, it was often assessed at a moment when adolescents were already in secondary school, whereas identity is known to be especially salient around moments of transition or change (Bosma & Kunnen, 2001; Branje et al., 2021). In line with this, one study that did examine identity change across the transition to tertiary education found that such transitions may be accompanied by changes in identity (Christiaens et al., 2022), with groups who had stronger pre-transition commitments and less reconsideration of those commitments reporting less anxiety symptoms than those who had less strong commitments and more reconsideration. This indicates that identity may indeed be actively considered (and reconsidered) across these transition moments.

Applied to the specific moment of the secondary school transition, educational identity may play a role in the choice for certain curricular profiles or for certain schools. When educational identity is assessed with regards to the choice for a certain school more specifically, it is plausible that such educational identity will be more influential for educational outcomes because the domain is more “open” (i.e., educational identity choices may vastly impact the environment of adolescents for the next years), as opposed to when adolescents are already in secondary school and the domain is thus more “closed” (i.e., great changes can no longer or not easily be facilitated; Meeus et al., 1999). In particular, adolescents who have carefully considered the choice for a secondary school and who have a strong educational identity with regard to the secondary school of their choice, may be expected to experience greater person-environment fit. At the same time, educational identity measured in this way—and at this

moment—may be less important for psychological outcomes, because exploration and low commitment are more normative and thus less problematic during the choice process for a secondary school. As a result, these adolescents may show better school and, tentatively, psychological adjustment.

### Parental and Own Expectations Regarding Secondary School and Adjustment

Not only one's identity, but also the expectations held regarding the upcoming school transition may impact how adolescents experience the transition to secondary school. Expectations may be held regarding own functioning in terms of academic performance (e.g., being able to finish homework on time, getting good grades) but also with regards to social functioning (e.g., being generally liked by classmates, having friends) in the post-transition context. Although school choice has traditionally been seen as a task primarily up to the parents, parents and youth now often make the decision for a secondary school together (Condliffe et al., 2015). As such, it is important to consider the role of expectations of both parents and adolescents in predicting later school and psychological adjustment.

Expecting that one will do well academically and socially in the new school environment may result in a more positive and resilient approach to the school transition than expecting that one will not be able to keep up academically and will make no friends (e.g., Jindal-Snape & Cantali, 2019; Waters et al., 2014), and thus may ultimately lead to an easier transition. Similarly, feeling as though one's parents expect one to do well in secondary school may result in adolescents having less doubts themselves, which may also lead to better educational and psychological adjustment post-transition (Chatterjee & Sinha, 2013; Grossman et al., 2011). To the best of our knowledge, there is no research examining the role of both adolescent and parental pre-transition expectations in post-transition adjustment to secondary school (and many studies following adolescents after the start of secondary school, as pointed out in Jindal-Snape & Cantali, 2019). However, based on earlier findings on expectations after the school transition, adolescents who have less positive expectations and who perceive their parents having less positive expectations were expected to experience poorer school and psychological adjustment in secondary school (e.g., Chatterjee & Sinha, 2013; Jindal-Snape & Cantali, 2019).

### Reasons for the Educational Choice

Identity theory tells us something about if and how adolescents go through the decision process of selecting a school, but it does not tell us what aspects of schools guide the exploration and commitment processes of adolescents before the transition to secondary education. Research on the factors that are related to the choice of a secondary school has often focused on parental choice and, thus, parental reasons (e.g., Hughes et al., 1994; Morgan et al., 1993). For instance, Dutch parents value locality of the school, as well as positive school attitudes toward social education and creative development (Denessen et al., 2001, 2005). However, adolescents' own ideas and preferences have become increasingly important in the choice for a secondary school (Condliffe et al., 2015), and may differ from those of their parents. As such, it is important to qualitatively examine what aspects of school are important for adolescents themselves when they are searching for a secondary school, which was the second goal of the present study.

Based on the assumption that adolescents are rational agents who make their decision by comparing the costs and benefits of different alternatives, it may be expected that adolescents choose their secondary school for its benefits. Following this theory of rational choice (Jæger, 2007) but also the closely related Expectancy-Value model (Eccles, 1983; Eccles & Wigfield, 2002), adolescents will choose the school that offers them the greatest educational and social benefits (e.g., best education, many of their primary school friends going to that school) and the smallest costs (e.g., short home-school distance). In addition, adolescents' choices regarding a secondary school may also be partially motivated by their interests (Hidi & Renninger, 2006; Krapp, 2002, 2005), such as an interest in bilingual education or combining sports at a high level with regular secondary school. It is, therefore, possible that adolescents also take into account their interests for potential subjects or extracurricular activities when deciding what secondary school they want to attend.

### Current Study

The transition to secondary school is an important moment in adolescents' lives and may have a long-lasting impact on their school and psychological adjustment. The present study had two goals. First, this study examined pre-transition factors that may predict post-transition adjustment. We examined



whether educational identity with regard to secondary education before the transition is related to school and psychological adjustment post-transition. Although past work has examined identity in relation to educational and psychological outcomes (e.g., Crocetti et al., 2012, 2013; De Moor et al., 2019), this work often examined identity when adolescents were already situated in a stable school situation (for a notable exception, see Christiaens et al., 2021). Therefore, our hypotheses were built on this previous work but were at the same time largely speculative in nature. Having greater commitment to a school choice was hypothesized to be related to better adjustment. Moreover, relative increases in the year before the transition in commitment were expected to be related to positive adjustment, whereas decreases were expected to be related to lower adjustment. With regard to exploration, the expectations were less straightforward. Reporting a high level of exploration 1 year before the transition was thought to be related to better adjustment, as these adolescents may be expected to have considered their school choice more carefully than adolescents who explored less. Moreover, experiencing a decrease in exploration over the year before the transition could be related to better adjustment, because it may reflect adolescents having settled on a choice. In contrast, continued or even increased exploration may point to rumination and indecisiveness. In addition to educational identity, this study also investigated the role of adolescent and parental expectations of post-transition adjustment. It was expected that adolescents with more positive expectations and who experienced their parents having more positive expectations would show better post-transition adjustment. These research questions and hypotheses, as well as the statistical plan were pre-registered at <https://osf.io/bm4qk>. Figure 1 depicts a conceptual visualisation of the proposed.

The second goal of the study was to gain a better understanding of the aspects that adolescents consider when exploring their educational identity and the reasons that adolescents base their school choice on. We qualitatively examined the reasons adolescents named for choosing a secondary school in an interview about the school choice, and combined these reasons in overarching categories to gain greater insight into adolescents' school choices. Within the Dutch context, choice for a secondary school is restricted by the advice adolescents receive at the end of primary school, which may also limit the opportunities they have for

making an autonomous choice. Therefore, examining the reasons youth name themselves may give insight into how they find autonomy in the school choice process and engage in concrete exploration processes allowing them to make a volitional choice for a school.

In addition to our pre-registered hypotheses, this study explored the relation between the number of reasons provided by a participant and their score on exploration at Wave 1 and 2, and their adjustment at Wave 3. It was expected that adolescents who named more reasons for their school choice also engaged in more pre-transition exploration, because these reasons can be seen as a more specific measure of exploration than the questionnaire. That is, we assumed that adolescents who explored more would have considered more different aspects of the school. Furthermore, in line with the idea that adolescents who explored the options better would choose a school that offers them a better person-environment fit (Symonds & Galton, 2014), we expected that these adolescents would also report better post-transition adjustment.

## METHOD

### Procedure and Participants

The present study used data from the longitudinal INTRANSITION project ( $N = 314$ ), which is focused on the development of identity and autonomy across the school transition from primary to secondary school. The adolescents were followed across the year before (2019–2020) and the year after (2020–2021) the school transition, with half-yearly measurement waves in the fall and spring. During these four waves, they filled in an online questionnaire and at Wave 1, participated in a brief interview about the upcoming school transition. At each wave INTRANSITION also included a friend (could differ across waves, optional) who filled out questionnaires. All participants and one of their parents provided informed consent. Participants received €10,- per measurement occasion for completing the questionnaire and an additional €10,- for completing the interview. The INTRANSITION project was approved by the Ethics Review Board of the Utrecht University [VIEW]. The current study used data of target adolescents and their friends who filled out the questionnaire at Wave 1, which resulted in a total sample of  $N = 314$  ( $n = 244$  target adolescents and  $n = 70$  best friends). We used data from Wave 1–3, which were available at the time this study was conducted, as we were

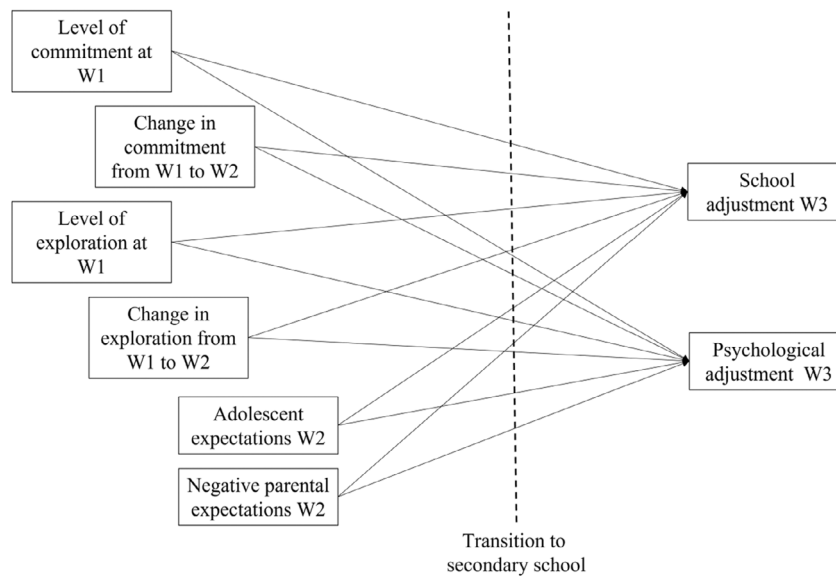


FIGURE 1 Conceptual model of the hypothesized relations between educational identity development, expectations, and educational and psychological outcomes. Note: The model presents the conceptually hypothesized relations between the variables of interest, where “W” represents the wave at which the variable was measured. For a statistical representation of the model that was fitted to data, we refer the reader to Figure S1.

interested in adjustment immediately after the transition and pre-transition predictors thereof. Of this sample, 159 was female (51.6%), and adolescents had a mean age of 11.58 ( $SD = 0.50$ ). Most adolescents identified as only Dutch ( $n = 144$ , 47.4%) or Dutch and another label ( $n = 150$ , 49.3%).<sup>1</sup> In terms of socioeconomic status, most adolescents considered themselves better off than other Dutch adolescents, as measured with the Cantril ladder (Levin & Currie, 2014, on which 95.5% scored above the midpoint of the ladder). All parts of data collection were conducted in Dutch.

## Measurement Instruments

**Educational identity.** Adolescent educational identity was assessed with a newly constructed questionnaire assessing educational identity processes, titled the Educational Identity Processes Scale (EIPS; Christiaens et al., 2021). The EIPS was developed to be more sensitive to identity processes as they occur in the adolescents’ school context before and after school transitions. The items are based on existing identity questionnaires that are less sensitive to context (e.g., Dimensions of

Identity Development Scale, Luyckx et al., 2008; Utrecht-Management of Identity Commitments Scale, Crocetti et al., 2008; Vocational Identity Status Assessment, Porfeli et al., 2011). The measure taps into processes of commitment, exploration, and reconsideration. The current paper used the pre-transition questionnaire, which does not include reconsideration, because reconsideration may take place for some adolescents’ post-transition. More information on the development of the questionnaire, its factor structure, longitudinal measurement invariance, and validity can be found in Christiaens et al. (2021).

A pre-transition and a post-transition version of the EIPS exist, but the present study used the pre-transition version at Wave 1 and Wave 2, which contains 22 items that were rated by the adolescents on a scale from 1 (*completely disagree*) to 5 (*completely agree*). The pre-transition EIPS consists of five subscales, of which the four subscales related to commitment (i.e., commitment making and identification with commitment subscales, consisting of three and five items, respectively) and exploration (i.e., exploration-in-breadth and exploration-in-depth subscales, five items each) were used for the present study. Reconsideration is part of the post-transition measure, as it typically takes place after adolescents have made identity choices and explore whether these choices represent a good fit to their needs and expectations.

<sup>1</sup>The other participants who filled out the item indicated to identify as either one other group ( $n = 2$ ) or two other groups ( $n = 8$ ). Apart from Dutch, participants identified as Moroccan, Turkish, Surinamese, Antillean, Chinese, or other (e.g., English, Slovenian, Syrian).

Example items measuring commitment and exploration are: “The school I want to attend really fits me” and “I am comparing different types of schools to find out which school fits me best”, respectively. For a full overview of the items, please see Christiaens et al. (2021). Because there was substantial covariance between the latent factors of commitment making and identification with commitment ( $\beta = .78$ ,  $p < .001$  and  $\beta = .95$ ,  $p < .001$ , at W1 and W2, respectively) and exploration-in-breadth and exploration-in-depth ( $\beta = .72$ ,  $p < .001$  and  $\beta = 0.72$ ,  $p < .001$ ), respectively, the subscales were combined into one mean score of commitment and one score of exploration per wave. The EIPS had acceptable reliability in the present study, with a Cronbach’s alpha of .84 and .82 for the commitment scale at Wave 1 and 2, and .90 and .89 for the exploration scale, respectively.

**Own pre-transition expectations.** Expectations of adolescents regarding their own academic and social functioning post-transition were measured at Wave 2 with six items (3 for academic and 3 for social functioning) also used by Cillessen and Mayeux (2007). The items were assessed on a scale from 1 (*completely untrue*) to 7 (*completely true*). Examples of the two types of functioning are: “In my new school, I think I will be able to finish my homework on time” (academic) and “In my new school, I think I will have friends” (social). An Exploratory Factor Analysis (EFA) suggested that either a one-factor or two-factor model would fit the data well, following results from a parallel analysis and visual inspection of the scree plot. Because the two factors in the two-factor model were highly correlated ( $r = .71$ ) and the one-factor model fits well with our outcome variable also combining academic and social aspects of school functioning, we selected this as the most appropriate model. A Confirmatory Factor Analysis (CFA) confirmed this model fit the data well (CFI = 1.000, RMSEA < 0.001). Thus, all items were averaged into one score of expectations. The overall scale had acceptable reliability, with an alpha of .90.

**Negative parental academic expectations.** Negative parental academic expectations were assessed at Wave 2 with a newly developed measure as the extent to which adolescents felt their parents doubted their academic capabilities (i.e., reflected doubt). The scale was based on items from existing questionnaires on parental academic expectations and reflected doubt (see e.g., Pinquart & Ebeling, 2020). The youth-report measure

consisted of five items, which were answered on a 5-point Likert scale (1 = *completely untrue* to 5 = *completely true*). An example item is: “My parents doubt whether I can attain the level of schooling of the school I want to attend” (all items are reported in Table S1). An EFA indicated that the five items all loaded on a single latent factor, following parallel analysis and a visual inspection of the scree plot. The model was shown to have good fit to the data after allowing for a covariance between the residuals of item 1 and 2 (CFA model fit: CFI = 1.000, RMSEA < 0.001). Therefore, scores on the five items were averaged into one score of reflected doubt. A higher score indicated more negative expectations. The scale showed acceptable internal consistency ( $\alpha = .76$ ).

**School adjustment.** Adolescents reported about their school adjustment at Wave 2 and 3. Two items that were based on suggestions by the CITO [Central Institute for Test Development] were used to assess *school functioning*: “In the past week, how was your school performance?” and “In the past week, how did doing your homework go?” The items were assessed on a scale from 1 (*very poor/poorly*) to 5 (*very well*). Reliability of the scale was acceptable, with an alpha of .75 and .76 at Wave 2 and 3, respectively. *School engagement* was measured with three items from the Engagement Versus Disaffection with Learning Scale (Skinner et al., 2008) that reflected behavioral engagement. The items were “I try hard to do well in school”, “In class, I work as hard as I can”, and “When I’m in class, I listen very carefully”. The items were responded to on a 5-point Likert scale (1 = *completely untrue* to 5 = *completely true*). Reliability was again acceptable, with an alpha of .70 and .73 at Wave 2 and 3, respectively. *School belonging* was measured with six of the social connectedness items reported in Jose et al. (2012) focused on school connectedness. These items tapped into the relation with teachers (e.g., “The teachers at school respect me”; three items) and an overall sense of communion with school (e.g., “I am proud of belonging to my school”; three items), which were assessed on a scale from 1 (*completely disagree*) to 5 (*completely agree*). Inspecting the results of a parallel analysis and scree plots, an EFA suggested that a one-factor model fit the data best, and had acceptable fit to the data at Wave 2 and 3 after allowing items 1 and 6 and items 3 and 5 to covary (CFA model fit: CFI = 1.000 and RMSEA < 0.001 and CFI = 0.980 and RMSEA = 0.082, respectively). Therefore, a single mean score was created of all



six items. The factor structure, item intercepts, loadings, and residual variances were invariant across the two time points (Table S2), thus suggesting that the measure could be meaningfully used to examine effects over time. The reliability of the scale was good in the present study ( $\alpha = .85$  and  $.83$  at Wave 2 and 3, respectively).

**Psychological adjustment.** Psychological adjustment was reported by the adolescents at Wave 2 and 3. *Internalizing problems* were assessed with the Revised Child Anxiety and Depression Scale (RCADS; Chorpita et al., 2000). The measure consists of 47 items that tap into depression and several specific types of anxiety (e.g., social phobia, generalized anxiety, panic disorder) and were answered on a scale from 1 (*never*) to 4 (*always*). An example item measuring generalized anxiety is “I worry something bad will happen to me”. In the past, the RCADS has been shown to have good reliability and validity (Chorpita et al., 2005). The internalizing problems items showed good internal consistency, with an alpha of  $.95$  and  $.96$  at Wave 2 and 3, respectively. *Externalizing problems* were assessed with 36 items from the Youth Self Report (Achenbach, 1991; Verhulst et al., 1997). The items were part of the subscales of aggressive behavior and delinquent behavior, and the response scale ranged from 1 (*never*) to 3 (*often*). An example item is “I fight a lot”. Reliability of the scale was acceptable in this study ( $\alpha = .86$  and  $.82$  at Wave 2 and 3, respectively).

**School choice reasons.** During the interviews of Wave 1, target participants ( $n = 244$ , interviews of  $n = 241$ ) verbally responded to several questions about the upcoming school transition. Specifically, participants were asked “Could you please tell me about the school that you want to go to next year? Did you already make the choice for a school to go to?”. Depending on whether or not they had already made the choice for a specific school, they were then asked “To what school do you want to go? Can you tell me how you came to this choice and what you have done to make this choice?” or “Can you tell me what you have done so far to make the choice for a school and why you aren’t sure yet?”, respectively. Interviewers could repeat the question for the purpose of clarification, but could provide no new information or examples to prompt answers from the participants.

The resulting answers were first transcribed and then coded to capture what reasons participants named for their (potential) school choice. We

developed a new coding system consisting of three parts: (1) whether or not a reason was named, (2) whether the reason was something absent or present at the new school, and (3) whether the reason was seen as a cost or a benefit. Reasons that were too vague were not coded, such as wanting to go to a school because it seemed “nice”. Reasons were grouped into 12 categories, and per interview zero, one, or more categories could be coded (see Table S5 for an overview of the possible reasons).

To set up the coding system, the first author (FA) first created initial categories of reasons based on research on parental reasons for the secondary school choice (e.g., geographical closeness to home, extracurricular opportunities; from Denessen et al., 2001, 2005; Hughes et al., 1994; Hunter, 1991; Morgan et al., 1993). Second, based on a random selection of 20 interview transcripts, FA edited this system together with a graduate student (GS) to form an initial coding system. Third, FA and GS explained the coding system to an undergraduate student and practiced using the same 20 interviews. At this stage, changes could still be made to the coding system. When the coders were sufficiently trained in the use of the coding system, the other transcripts were coded by FA and the undergraduate student. The duo independently coded 30 interviews per week. Disagreements were discussed during weekly meetings, after which a final code would be chosen following consensus. Reliability ( $\kappa$ ) across all interviews for the pre-consensus cod was  $.80$  across the two coders (82.1% inter-coder agreement), which suggested the interviews were coded reliably (Syed & Nelson, 2015). Furthermore, to test for drift during the coding process, FA and the undergraduate student recoded the training interviews after finishing the coding of all transcripts. Reliability was calculated between the originally assigned codes and the codes assigned at the very end of the coding process, and was also good ( $\kappa = .81$ , 82.9% agreement), indicating that coder drift was limited. Interview transcription and coding commenced in Dutch, after which the coding system was translated to English for sharing with an international audience. A full overview of the coding procedure is provided on the OSF page: <https://osf.io/478yx/>.

### Statistical Plan

To examine whether pre-transition educational identity, own expectations, and negative parental expectations predicted post-transition school and psychological adjustment, a Structural Equation

Model (see Figure S1) was fitted using the *lavaan* R package (Rosseel, 2012). Specifically, we fitted one model that included an intercept (level) and a slope (change) factor of educational commitment and educational exploration measured at Wave 1 and Wave 2. We tested the effects of the intercept and slope factors in addition to own expectations and negative parental expectations on post-transition adjustment. School adjustment and psychological adjustment were modeled as two latent constructs, for which the specific measures were manifest indicators (i.e., school functioning, school engagement, and school belonging for school adjustment and internalizing and externalizing problems for psychological adjustment). Gender (Wave 1) was included as a control variable for psychological adjustment, as there are known gender differences in internalizing and externalizing problems (Zahn-Waxler et al., 2008). Covariances were included between all predictors and also between the latent school adjustment and psychological adjustment variables. Because normality tests pointed to multivariate non-normality in our predictors (Royston's test:  $H = 80.32$ ,  $p < .001$ ), we used a robust maximum likelihood estimator for our main analyses.<sup>2</sup> Furthermore, because our data for a part consisted of duos of friends, we accounted for this partial dependency in the data by controlling for clustering of the data.

Model fit was evaluated with the Root Mean Squared Error of Approximation (RMSEA; Steiger, 1989) and the Comparative Fit Index (CFI; Bentler, 1990). Specifically, an RMSEA of  $\leq 0.08$  and a CFI of  $\geq 0.90$  were considered to indicate acceptable model fit (Hooper et al., 2008). An alpha of .05 was used to test the significance of effects.

<sup>2</sup>Our final analyses diverge in several ways from the initial pre-registered plan. First, we initially planned to estimate separate models for commitment and exploration, to reduce model complexity. Second, we first planned to constrain the factor loadings of the slope factor to  $-1$  and  $1$ , respectively, in line with a sum and difference score interpretation (see e.g., Nelson et al., 2006). Because an intercept and slope interpretation may be more familiar to readers, we have adjusted this. Third, because our data reflected adolescents and in some cases a self-selected friend, we controlled for clustering in the data. Finally, our initial plan stated that we would control for adjustment outcomes at Wave 2 so that we could predict relative change in our outcomes from Wave 2 to Wave 3. However, because the fit of this model to the data was unacceptable, we instead present this model in Table S4, and in the main manuscript present the model without these control variables. Interestingly, after including the W2 datapoints of the outcome variables as controls in our model, most effects fell away, suggesting that for a part these effects already play out via earlier adjustment.

In addition to these quantitative tests, we qualitatively examined the reasons provided by participants for their (tentative) choice for a school. We did this by providing the distribution of reasons provided in the transcribed interviews. Finally, to explore the link between the quantitative and qualitative methods, we estimated the correlations between the number of reasons provided by participants and their exploration score on Wave 1 and Wave 2 and included the number of reasons as predictor in our Structural Equationmodel (see Figure 1 for a conceptual overview).

## RESULTS

### Quantitative Analysis of Post-Transition Adjustment

*Descriptive statistics and correlations of the study variables.* We first examined the descriptive statistics of and correlations between the study variables (Table 1). Correlations between the main study variables were mostly significant and in the expected direction. That is, higher levels of commitment and exploration at Wave 1 and 2 were correlated with more positive school adjustment outcomes, except for the correlation of exploration at Wave 1 and 2 with school functioning at Wave 3 and the correlation of commitment at Wave 2 with school functioning and school engagement at Wave 3. Commitment and exploration were also related to higher own and lower negative parental expectations, but not to internalizing and externalizing problems. More positive own and less negative parental expectations were also correlated with better school adjustment and psychological adjustment. The school adjustment and psychological adjustment outcomes were all positively intercorrelated, except for externalizing problems with own expectations of post-transition social and academic functioning.

*Identity and expectations as predictors of post-transition adjustment.* To examine whether commitment, exploration, own expectations, and negative parental expectations were predictors of post-transition adjustment, we fitted a model including an intercept and slope factor for commitment and exploration (see Table 2 and 3 for an overview of the intercept and slope factors, and the regression coefficients, respectively). This model fit the data well (RMSEA = 0.064, CFI = 0.946). The model indicated that there was a positive slope for commitment and a negative slope for exploration,

TABLE 1  
Descriptives of and Correlations Between the Main Study Variables (N = 314)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Commitment W1											
2. Exploration W1	0.26*										
3. Commitment W2	0.46*	0.16*									
4. Exploration W2	0.15*	0.57*	0.24*								
5. Own expectations W2	0.26*	0.32*	0.55*	0.30*							
6. Negative parental expectations W2	-0.19*	-0.12	-0.32*	-0.02	-0.34*						
7. School functioning W3	0.15*	0.13	0.08	0.14	0.23*	-0.26*					
8. School engagement W3	0.18*	0.25*	0.08	0.24*	0.18*	-0.22*	0.60*				
9. School belonging W3	0.22*	0.16*	0.19*	0.20*	0.22*	-0.37*	0.48*	0.56*			
10. Internalizing problems W3	0.03	-0.04	-0.01	-0.04	-0.19*	0.16*	-0.31*	-0.18*	-0.30*		
11. Externalizing problems W3	0.01	-0.07	0.05	-0.05	-0.06	0.15*	-0.34*	-0.37*	-0.27*	0.38*	
Mean	3.79	3.46	4.26	3.29	5.83	1.47	3.84	3.93	4.01	1.47	1.16
SD	0.71	0.76	0.60	0.80	0.83	0.58	0.71	0.62	0.64	0.38	0.15

\* $p < .05$ .

TABLE 2  
Mean and Variance Estimates of the Latent Commitment and Exploration Factors and Covariance Between the Factors (N = 314)

	Mean	p	Variance	p
Commitment intercept	<b>3.82</b>	<b>&lt;.001</b>	<b>.47</b>	<b>&lt;.001</b>
Commitment slope	<b>0.45</b>	<b>&lt;.001</b>	<b>.47</b>	<b>&lt;.001</b>
Exploration intercept	<b>3.45</b>	<b>&lt;.001</b>	<b>.60</b>	<b>&lt;.001</b>
Exploration slope	<b>-0.18</b>	<b>.001</b>	<b>.55</b>	<b>&lt;.001</b>

Bolded is significant at  $\alpha < .05$ .

TABLE 3  
Regression Coefficients of Commitment, Exploration and Expectations on School and Psychological Adjustment (N = 314)

	b	SE	$\beta$	p
Predictors of school adjustment				
Commitment intercept	-.01	.10	-.02	.909
Commitment slope	-.12	.09	-.17	.178
Exploration intercept	<b>.14</b>	<b>.06</b>	<b>.23</b>	<b>.022</b>
Exploration slope	<b>.12</b>	<b>.05</b>	<b>.19</b>	<b>.018</b>
Own expectations W2	.08	.07	.15	.231
Negative parental expectations W2	<b>-.28</b>	<b>.08</b>	<b>-.35</b>	<b>&lt;.001</b>
Predictors of psychological adjustment <sup>a</sup>				
Commitment intercept	<b>.11</b>	<b>.05</b>	<b>.26</b>	<b>.030</b>
Commitment slope	.10	.05	.23	.053
Exploration intercept	-.03	.04	-.08	.366
Exploration slope	-.01	.04	-.03	.756
Own expectations W2	-.09	.05	-.25	.059
Negative parental expectations W2	<b>.13</b>	<b>.05</b>	<b>.25</b>	<b>.007</b>
Gender (female)	<b>.19</b>	<b>.08</b>	<b>.32</b>	<b>.015</b>

Bolded is significant at  $\alpha < .05$ .

<sup>a</sup>As psychological adjustment was loaded on by the manifest internalizing and externalizing problems variables, a higher score on the latent variable reflects lower psychological adjustment.

indicating that across the year before the school transition, adolescents tended to increase in their commitment to a school choice and to decrease in their exploration behavior. Moreover, for both commitment and exploration the intercept and slope factors were negatively associated, meaning that youth who committed and explored more at the start of the year experienced less change across the remainder of the year (see Table S3 for an overview of all covariance estimates). In addition, there was also an association between the factors of commitment and exploration. In particular, youth who explored more also committed more at the start of the year. Moreover, those who experienced more change in their commitment also tended to change more in their exploration behavior.

With regard to predictive effects on post-transition adjustment, our analyses indicated several effects on *school adjustment*. More exploration, but not commitment, at the start of the year before the transition predicted better post-transition school adjustment. Moreover, youth who experienced a decrease in exploration across the year were more likely to report higher post-transition school adjustment. Negative parental expectations were also associated with school adjustment, such that adolescents who perceived less negative expectations of their parents before the school transition were better adjusted in their secondary school. Regarding *psychological adjustment*, commitment but not exploration appeared predictive of how well youth did post-transition. In particular, adolescents who were more committed to a school choice at the start of the year before the transition reported lower post-transition adjustment. Moreover, having less positive expectations themselves and

perceiving that one's parents had less positive expectations was associated with lower psychological adjustment in secondary school. Lastly, being female was also predictive of lower psychological adjustment.

### Qualitative Analysis of School Choice

To better understand the school aspects that are important to adolescents when making their choice for a secondary school, we coded participants' responses regarding their school choice and the steps they had taken to make that choice. In total, of the 241 target adolescents who participated in the interview, 46 did not name any reason for their school choice. In some cases, this was due to them not yet having started to consider the school transition, but in other cases adolescents had already made a choice or were quite certain of a choice but did not provide any reasons for that choice. For instance, they said "It just seems like a school that fits me."

The remaining 195 interviews contained one or more reasons for the school choice. In total, 384 codes were assigned, with most adolescents providing one ( $n = 73$ ) or two reasons ( $n = 75$ ), and a smaller group providing three ( $n = 31$ ), four ( $n = 12$ ), and five ( $n = 4$ ) reasons. As can be seen in Table 4, the most often cited reason regarded interest-related (extra)curricular activities or the focus of the curriculum of schools ( $n = 75$ ),

followed closely by friends or family already being at a school ( $n = 70$ ). Also often named reasons were the attractiveness of the school ( $n = 59$ ), the distance from home ( $n = 48$ ), and the educational climate ( $n = 46$ ). The least often mentioned reasons were non-interest-related extracurricular activities ( $n = 4$ ) and having the expectancy to make new friends at a particular school ( $n = 3$ ). A full description of the distribution of codes across the sample including absence/presence and cost/benefit differentiation is provided in Table S6.

From these findings, we can see that many adolescents cited reasons related to the educational part of school. That is, many adolescents named reasons related to the school curriculum or the particular subjects that were taught at a school (e.g., a technical curriculum focus, bilingual education, specific language course), or reasons related to the school climate (school factors that focus on the more abstract "how things are done", e.g., focus on individual learning, an anti-bullying climate, or a focus on independent working). Interestingly, these reasons were often cited as reasons to go to a school ( $n = 64$  and  $n = 36$ , respectively), but were sometimes also cited as reasons not to go there ( $n = 11$  and  $n = 10$ ), either because a school lacked a desirable subject or focus or because the school had an undesirable subject or focus.

Adolescents also valued the practical aspects of a school, such as the attractiveness of the building (e.g., modernity and esthetic appeal, location,

TABLE 4  
Frequency of Reasons Given to (not) Attend a Particular School by the Participants ( $N = 241$ )

	<i>Number of participants (%)</i>
<b>Pleasure and esthetical reasons</b>	
Non-interest-related extracurricular activities	4 (1.7%)
Attractiveness of the school building, location, and/or classrooms	59 (24.5%)
<b>Interest reasons</b>	
Interest-related (extra)curricular activities or focus of the curriculum	75 (31.1%)
School has a good reputation	22 (9.1%)
Quality of education	6 (2.5%)
<b>School climate reasons</b>	
Denomination of school	14 (5.8%)
Educational climate/pedagogical views	46 (19.1%)
<b>Social reasons</b>	
Friends or family attend school	70 (29.0%)
Expectancy of new friends	3 (1.2%)
Parents say it is a good school for adolescent	13 (5.4%)
<b>Practical reasons</b>	
School is within easy reach	48 (19.9%)
Big school of class size	24 (10.0%)

The bolded categories were used for categorization only; they were not used in the coding process. Note that the total  $N$  of reasons is higher than the number of participants, because participants could name multiple reasons in their interview.



layout) and the distance from home. For instance, with regard to attractiveness, several participants mentioned having separate buildings or separate cafeterias for the junior and senior years as a reason to choose that school. The fact that the distance to school was often mentioned is not surprising, as many Dutch adolescents cycle to school. In line with this, a school being far away was often listed as a reason not to go there ( $n = 15$ ) and a school being nearby as a reason to go there ( $n = 30$ ). However, there were also two participants who mentioned a larger distance as a reason to choose a particular school.

Finally, it appeared that the social aspect of school was also weighed heavily in adolescents' choice for a secondary school. Interviews in which friends or family already being at or going to a school was mentioned, mostly listed current classmates and older siblings, but some also listed a family member working at a school. Although most participants who mentioned family or friends already attending a school did so as a reason to go to the school ( $n = 67$ ), some also named a sibling attending as a reason *not* to go there ( $n = 2$ ).

### Explorative Analyses: Linking Quantitative and Qualitative Data

In addition to our main analyses, we explored the associations between the school choice interview and the questionnaire data. We first examined whether the number of different reasons mentioned in the interview correlated with adolescents' self-reported exploration behavior at Wave 1 and Wave 2. Unexpectedly, the number of reasons mentioned was not significantly correlated with exploration at Wave 1 ( $r = .04$ ,  $p = .519$ ), but was moderately positively associated with exploration at Wave 2 ( $r = .21$ ,  $p = .004$ ). This indicates that on average, adolescents who reported more reasons substantiating their school choice also self-reported more exploration behavior later in the school year.

Then, we entered the variable capturing the number of different reasons mentioned as a predictor in the model described above. In this model (RMSEA = 0.069, CFI = 0.922), the number of different reasons named in the interview was not predictive of better later psychological or school adjustment (see Table S7).

## DISCUSSION

The transition to secondary school is an important moment in adolescents' lives, and may be

accompanied by changes in their school adjustment (Martínez et al., 2011; Wigfield et al., 2006) and mental health (Hanewald, 2013; Symonds & Galton, 2014). Importantly, these positive or negative changes may persist throughout secondary school (Eccles et al., 1997; Nelemans et al., 2018). As such, it is important to timely identify adolescents who are at risk of negative adjustment in their new school. The present study examined educational identity processes related to the school choice, own expectations, and parental expectations as potential predictors of post-transition adjustment. In addition, it explored the reasons that adolescents named for their school choice, and linked the number of different reasons adolescents gave to identity processes and post-transition adjustment.

### Predictors of Post-Transition Adjustment

**Educational identity.** Based on previous work on academic (e.g., De Moor et al., 2019; Roeser et al., 2012) and psychological outcomes (Crocetti et al., 2012, 2013), educational identity was expected to predict school and psychological adjustment. Our analyses indeed indicated some links of pre-transition educational identity processes with post-transition adjustment, although not always in the expected direction. First, and in line with our expectations, the findings showed that engaging in more exploration at the start of the last year of primary school was related to better school adjustment. This seems to suggest that during a time where exploration is normative, doing so is beneficial for one's adjustment in the new school. It also provides some evidence for the notion that exploration of the different school options may help adolescents find the school that provides them good person-environment fit (Symonds & Galton, 2014). That is, adolescents who explored their options well may have been better able to figure out which subjects they were good in, which they enjoyed, and which schools offered a curriculum in line with these own qualities. Less formally too, adolescents who explored may have had a better idea of what schools offered them the best fit in terms of practical and social aspects. Second, also in line with our hypotheses, decreases in exploration across the year predicted better school adjustment. Thus, it appears that youth who explored the school options well before settling on a choice were better adjusted than those who kept exploring. Third, and contrary to our hypotheses, youth who reported a stronger commitment at the start of the final year of primary



school reported poorer psychological adjustment. This was surprising, as we had expected that having stronger commitments would be related to better outcomes, as has also been evidenced in previous work (e.g., Crocetti et al., 2012, 2013). However, it should be noted that there was no zero-order correlation between commitment and later internalizing or externalizing problems. Thus, it is possible that after controlling for the variance explained by exploration, this association reflects a sort of foreclosed identity process.

**Own and parental expectations.** With regard to own and parental expectations of adolescent social and academic functioning in secondary school, our results indicated that adolescents who perceived less negative parental expectations experienced better school adjustment after the school transition. Own expectations were also related to better psychological adjustment, and less negative parental expectations to better school and psychological adjustment, but not after controlling for adjustment before the transition. These findings are in line with our hypotheses and previous related work (e.g., Chatterjee & Sinha, 2013; Jindal-Snape & Cantali, 2019). The fact that most of these effects fell away when controlling for pre-transition adjustment suggests that when adolescents are better adjusted, both they and their parents have more positive expectations of them being so in the future, which in turn is related to future adjustment. For example, an adolescent with high grades and high popularity will have expectations of secondary school that are in line with this. The finding that pre-transition functioning also emerged as strong predictive factor further suggests that adjustment is quite stable across the transition; adolescents who are poorly adjusted in primary school tend to remain so in secondary school.

### Reasons for the School Choice

Our study further aimed to shed light on the reasons that adolescents have for choosing a particular school, using a newly developed coding system. Reasons named by adolescents may represent concrete exploration behaviors and provide insight into how adolescents find autonomy within the school choice process. Many of the adolescents in our study were able to name one or more reasons for their school choice, indicating that they had already thought about the school choice and about reasons that may play a role in their choice. This also suggests that even within a context in which

opportunities for autonomy are limited (i.e., by educational advice), most adolescents were able to find ways to autonomize their school choice. The reasons named by adolescents were highly diverse and often adolescents named multiple reasons as the foundation for their school choice, suggesting that they take into account different aspects of schools in making their school choice. They most often named reasons related to the educational aspects of schools, such as subjects or focus of the curriculum and educational climate. That adolescents highly valued the educational aspects of schools is in line with work on interests and motivation (Hidi & Renninger, 2006; Krapp, 2002, 2005), and suggests that in choosing a school adolescents pay close attention to what they can learn and in what climate. This may help them maximize their person-environment fit (Symonds & Galton, 2014) in terms of the intellectual component, but may at large be only a small component of adolescents' fit in their new school. For future research, it would therefore be interesting to see whether making a choice based on this reason is indeed related to better school adjustment but not to psychological and social adjustment. Importantly, in the present study adolescents often combined educational reasons with other reasons, such as practical (i.e., attractiveness of the building and distance to home) and social (i.e., whether or not friends or family attended the school) reasons and, therefore, likely covered more components of person-environment fit.

Comparing this work with previous research in parents (e.g., Denessen et al., 2001, 2005), there were many similarities and some differences. Both parents and adolescents valued school climate, the attractiveness of the school building, and the distance of school to home. However, whereas parents also valued order and discipline and the denomination of the school, adolescents emphasized more the social aspects of schools in their school choice. Clearly then, in addition to the more "formal" factors of schools, adolescents also took into account the "informal" factors that may play a role in their future daily lives.

Interestingly, about a fifth of our sample did not name any reasons for their school choice. As mentioned in the Results, these adolescents may not yet have thought about the school choice or may have made a choice without considering why. Thus, this group may reflect a mixture of two different stages in the educational identity process: identity diffusion and identity (fore)closure (Marcia, 1966). In future work it is important to differentiate these

adolescents and compare their post-transition adjustment.

### **Linking the Quantitative and Qualitative: Tentative Evidence for Congruence and Complementation**

Finally, this study explored the associations of our quantitative questionnaire measures of educational identity and school and psychological adjustment with the quantitative coding of reasons in the interviews, to see if the number of different reasons named for the school choice was indeed relevant for exploration behavior and post-transition adjustment. With regard to exploration, the number of reasons named in the interview was positively related to adolescents' exploration at the end of the last year of primary school, but not at the start. This is noteworthy, because the reasons that are named in the interview already reflect some kind of exploration, else adolescents would not know about these aspects of schools and be considering them as pros or cons of different schools. Instead, this correlation suggests that thinking about aspects of schools that are important to you may be a first step in the exploration process, and is associated with later more in-depth exploration of different schools and their fit with oneself. The number of reasons adolescents name for their school choice was not predictive of post-transition psychological and school adjustment.

### **Strengths and Limitations**

The present study had multiple strengths, most notably in its design. It used data from before and after the school transition, allowing us to take a prospective approach to the transition. The study further combined a quantitative and qualitative method, which were used not only in complementation but also in combination. Finally, to the best of our knowledge the present study was the first to focus on adolescents as active agents in the school choice, which offered unique insights into their needs and wishes regarding secondary schools.

However, there are also some limitations that need to be addressed. First, we had to make several adjustments to the original analytical plan to be able to estimate a well-fitting model, suggesting that our original ideas about the nature of the associations did not capture the reality of the data well. Because we tested several models of which some had unexpected findings, it is important that future research replicates these findings given the

possibility of inflated false positives in the present study. In particular, this work should examine the directionality of the reported relations and the possibility of third variables explaining these relations. For example, adolescents who are more extraverted and less neurotic may report both more identity exploration (Hatano et al., 2017; Klimstra et al., 2012), and may additionally report better expectations (Smith et al., 2021) and better social and poorer educational adjustment (Kumar, 2020). Furthermore, in the future, it may also be interesting to explore alternative modeling strategies. For instance, in the present study we used a reflective model to capture the relation between latent variables and their indicators. Nevertheless, it could be argued that rather than these invisible latent variables explaining the manifest scores, it is more likely that shared variance among the manifest scores is what makes the latent variables (i.e., formative model; e.g., Lange et al., 2020). However, because such modeling requires the formative latent factors to be predictive of something else for the model to be identified, we could not apply this modeling strategy in the present work. Furthermore, although the present study addressed a between-person question regarding adjustment in secondary school, future research should also explore how adolescents prepare for and experience the transition to secondary school at a within-person level (e.g., Molenaar, 2004). Such analyses may for example offer more insight into how adolescents differentially go through the identity process of choosing a school, and how they continue to develop afterwards.

Second, data collection for the INTRANSITION project took place, in part, during the COVID-19 pandemic. As a result of restrictions, participants may have been less free to engage in exploration behaviors such as visiting an "open house" day at schools. It is possible that this may have affected the scores on educational exploration reported in this study. In addition to impacting mean level scores, the COVID-19 pandemic may have also made salient other aspects of the school transition and of specific secondary schools than may have otherwise become salient. For instance, the general increase in home-school travel distance from primary to secondary school and the specific distance from home of different schools may have been a more important factor for youth during the pandemic. However, at the time of the study, most people were still expecting the pandemic would be over after the summer and, therefore, might not have affected the choice of school so much. Still, it

is important that future studies examine the school transition and factors relating to school choice when COVID-19-specific concerns are no longer an issue. Last, the participants in our sample are not completely representative of the Dutch population. Although nearly half of the adolescents identified with a second ethnic group, the majority identified most strongly as Dutch. Moreover, in terms of socioeconomic status, most adolescents considered themselves better off than most of the Dutch population.

## CONCLUSION

The aim of the present study was to examine educational identity processes, own expectations, and parental expectations in the last year of primary school as predictors of adolescents' post-transition adjustment. Furthermore, the study qualitatively examined the reasons that adolescents gave for their secondary school choice, and explored associations with educational identity and post-transition adjustment. Our findings indicate that identity processes and expectations of post-transition adjustment may help differentiate adolescents who go on to be well-adjusted from those who experience more problems in secondary school. Furthermore, educational, practical, and social aspects of schools appeared most important for adolescents when choosing a secondary school, and the number of different reasons that adolescents gave for their school choice was associated with exploration behavior in the last year of primary school. As such, this study provides first insights into adolescents' experiences and needs across the transition to secondary school, but more work is greatly needed.

## REFERENCES

- Achenbach, T. M. (1991). *Manual for the youth self-report and 1991 profile*. Department of Psychiatry, University of Vermont.
- Albarelo, F., Crocetti, E., & Rubini, M. (2018). I and us: A longitudinal study on the interplay of personal and social identity in adolescence. *Journal of Youth and Adolescence*, *47*, 689–702. <https://doi.org/10.1007/s10964017-0791-4>
- Becht, A. I., Branje, S. J. T., Vollebergh, W. A. M., Maciejewski, D. F., van Lier, P., Koot, H. M., Denissen, J. J., & Meeus, W. H. J. (2016). Assessment of identity during adolescence using daily diary methods: Measurement invariance across time and sex. *Psychological Assessment*, *28*, 660–672. <https://doi.org/10.1037/pas0000204>
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238–246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Bosma, H. A., & Kunnen, E. S. (2001). Determinants and mechanisms in ego identity development: A review and synthesis. *Developmental Review*, *21*(1), 39–66. <https://doi.org/10.1006/drev.2000.0514>
- Branje, S., De Moor, E. L., Spitzer, J. E., & Becht, A. I. (2021). Dynamics of identity development in adolescence: A decade in review. *Journal of Research on Adolescence*, *31*, 908–927. <https://doi.org/10.1111/jora.12678>
- Chatterjee, I., & Sinha, B. (2013). Perception of academic expectations of parents among high school boys and girls and their psychological consequences. *International Journal of Multidisciplinary Educational Research*, *2*, 1–13.
- Chorpita, B. F., Moffitt, C., & Gray, J. (2005). Psychometric properties of the Revised Child Anxiety and Depression Scale in a clinical sample. *Behaviour Research and Therapy*, *43*, 309–322. <https://doi.org/10.1016/j.brat.2004.02.004>
- Chorpita, B. F., Yim, L. M., Moffitt, C. E., Umemoto, L. A., & Francis, S. E. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: A Revised Child Anxiety and Depression Scale. *Behaviour Research and Therapy*, *38*, 835–855. [https://doi.org/10.1016/S0005-7967\(99\)00130-8](https://doi.org/10.1016/S0005-7967(99)00130-8)
- Christiaens, A. H. T., Nelemans, S., De Moor, E. L., Vossilis, R., Erentaite, R., & Branje, S. (2021). Psychometric qualities of the Educational Identity Processes Scale (EIPS). *Frontiers in Psychology*, *13*, 861220. <https://doi.org/10.3389/fpsyg.2022.861220>
- Christiaens, A. H. T., Nelemans, S., Meeus, W. H. J., & Branje, S. (2022). Identity development across the transition from secondary to tertiary education: A 9-wave longitudinal study. *Journal of Adolescence*, *93*, 245–256. <https://doi.org/10.1016/j.adolescence.2021.03.007>
- Cillessen, A. H. N., & Mayeux, L. (2007). Expectations and perceptions at school transitions: The role of peer status and aggression. *Journal of School Psychology*, *45*, 567–586. <https://doi.org/10.1016/j.jsp.2007.05.004>
- Condliffe, B. F., Boyd, M. L., & DeLuca, S. (2015). Stuck in school: How social context shapes school choice for inner-city students. *Teachers College Record*, *117*, 1–36.
- Crocetti, E. (2017). Identity formation in adolescence: The dynamic of forming and consolidating identity commitments. *Child Development Perspectives*, *11*, 145–150. <https://doi.org/10.1111/cdep.12226>
- Crocetti, E., Klimstra, T. A., Hale, 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. *Journal of Youth and Adolescence*, *42*, 1745–1758. <https://doi.org/10.1007/s10964-013-9924-6>
- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-

- dimensional model. *Journal of Adolescence*, 31, 207–222. <https://doi.org/10.1016/j.adolescence.2007.09.002>
- Crocetti, E., Scignaro, M., Sica, L. S., & Magrin, M. E. (2012). Correlates of identity configurations: Three studies with adolescent and emerging adult cohorts. *Journal of Youth and Adolescence*, 41, 732–748. <https://doi.org/10.1007/s10964-011-9702-2>
- De Moor, E. L., Van der Graaff, J., Van Dijk, M. P. A., Meeus, W., & Branje, S. (2019). Stressful life events and identity development in early and mid-adolescence. *Journal of Adolescence*, 76, 75–87. <https://doi.org/10.1016/j.adolescence.2019.08.006>
- Denessen, E., Driessena, G., & Slegers, P. (2005). Segregation by choice? A study of group-specific reasons for school choice. *Journal of Education Policy*, 20, 347–368. <https://doi.org/10.1080/02680930500108981>
- Denessen, E., Slegers, P., & Smit, F. (2001). *Reasons for school choice in The Netherlands and in Finland* [Paper presentation]. Annual Meeting of the American Educational Research Association, Seattle, WA.
- Eccles, J. S. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75–146). Freeman.
- Eccles, J. S., Lord, S. E., Roeser, R. W., Barber, B. L., & Hernandez Jozefowicz, D. M. (1997). The association of school transitions in early adolescence with developmental trajectories through high school. In J. Schulenberg, J. I. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (pp. 283–321). Cambridge University Press.
- Eccles, J. S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for young adolescents. *Research on Motivation in Education*, 3, 139–186.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109–132. <https://doi.org/10.1146/annurev.psych.53.100901.135153>
- Eccles, J. S., Wigfield, A., Midgley, C., Reuman, D., MacIver, D., & Feldlaufer, H. (1993). Negative effects of traditional middle schools on students' motivation. *The Elementary School Journal*, 93, 553–574. <https://doi.org/10.1086/461740>
- Erikson, E. H. (1950). *Childhood and society*. Norton.
- Erikson, E. H. (1968). *Identity, youth and crisis*. Norton.
- Fulgini, A. J., & Eccles, J. S. (1993). Perceived parent-child relationships and early adolescents' orientation toward peers. *Developmental Psychology*, 29, 622–632. <https://doi.org/10.1037/0012-1649.29.4.622>
- Grossman, J. A., Kuhn-McKearin, M., & Strein, W. (2011). *Parental expectations and academic achievement: Mediators and school effects*. [Poster presentation]. Annual Convention of the American Psychological Association, Washington, DC.
- Hanewald, R. (2013). Transition between primary and secondary school: Why it is important and how it can be supported. *Australian Journal of Teacher Education*, 38, 62–74.
- Hatano, K., Sugimura, K., & Klimstra, T. A. (2017). Which came first, personality traits or identity processes during early and middle adolescence? *Journal of Research in Personality*, 67, 120–131. <https://doi.org/10.1016/j.jrp.2016.06.014>
- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41, 111–127. [https://doi.org/10.1207/s15326985ep4102\\_4](https://doi.org/10.1207/s15326985ep4102_4)
- Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *The Electronic Journal of Business Methods*, 6, 53–60.
- Hughes, M., Wikeley, F., & Nash, T. (1994). *Parents and their children's schools*. Blackwell.
- Hunter, J. B. (1991). Which school? A study of parents' choice of secondary school. *Educational Research*, 33, 31–41.
- Jæger, M. M. (2007). Economic and social returns to educational choices: Extending the utility function. *Rationality and Society*, 19, 451–483. <https://doi.org/10.1177/1043463107083739>
- Jindal-Snape, D., & Cantali, D. (2019). A four-stage longitudinal study exploring pupils' experiences, preparation and support systems during primary–secondary school transitions. *British Educational Research Journal*, 45, 1255–1278. <https://doi.org/10.1002/berj.3561>
- Jindal-Snape, D., Cantali, D., MacGillivray, S., & Hannah, E. (2019). *Primary-secondary transitions: A systematic literature review*. Scottish Government.
- Jose, P. E., Ryan, N., & Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time? *Journal of Research on Adolescence*, 22, 235–251. <https://doi.org/10.1111/j.1532-7795.2012.00783.x>
- Kanevsky, L., & Keighley, T. (2003). To produce or not to produce? Understanding boredom and the honor in underachievement. *Roeper Review*, 26, 20–28. <https://doi.org/10.1080/02783190309554235>
- Kim, C., Park, S. W., Cozart, J., & Lee, H. (2015). From motivation to engagement: The role of effort regulation of virtual high school students in mathematics courses. *Educational Technology & Society*, 18, 261–272.
- Klimstra, T. A., Luyckx, K., Germeijs, V., Meeus, W. H. J., & Goossens, L. (2012). Personality traits and educational identity formation in late adolescents: Longitudinal associations and academic progress. *Journal of Youth and Adolescence*, 41, 346–361. <https://doi.org/10.1007/s10964-011-9734-7>
- Krapp, A. (2002). Structural and dynamic aspects of interest development: Theoretical considerations from an ontogenetic perspective. *Learning and Instruction*, 12, 383–409. [https://doi.org/10.1016/S0959-4752\(01\)00011-1](https://doi.org/10.1016/S0959-4752(01)00011-1)
- Krapp, A. (2005). Basic needs and the development of interest and intrinsic motivational orientations. *Learning and Instruction*, 15, 381–395. <https://doi.org/10.1016/j.learninstruc.2005.07.007>
- Kumar, D. (2020). Effect of extraversion and neuroticism on adjustment of students. *International Journal of Social Impact*, 5, 7–13. <https://doi.org/10.25215/2455/0504002>



- Lange, J., Dalege, J., Borsboom, D., van Kleef, G. A., & Fischer, A. H. (2020). Toward an integrative psychometric model of emotions. *Perspectives in Psychological Science*, 15, 444–468. <https://doi.org/10.1177/1745691619895057>
- Levin, K. A., & Currie, C. (2014). Reliability and validity of an adapted version of the Cantril Ladder for use with adolescent samples. *Social Indicators Research*, 119, 1047–1063. <https://doi.org/10.1007/s11205-013-0507-4>
- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42, 58–82. <https://doi.org/10.1016/j.jrp.2007.04.004>
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3, 551–558.
- Martínez, R. S., Aricak, O. T., Graves, M. N., Peters-Myszak, J., & Nellis, L. (2011). Changes in perceived social support and socioemotional adjustment across the elementary to junior high school transition. *Journal of Youth and Adolescence*, 40(5), 519–530. <https://doi.org/10.1007/s10964-010-9572-z>
- Matthews, M. S. (2009). Gifted learners who drop out: Prevalence and prevention. In L. V. Shavinina (Ed.), *International handbook of giftedness* (pp. 527–536). Springer-Verlag. <https://doi.org/10.1007/978-1-4020-6162-2>
- Meeus, W. H. J. (2011). The study of adolescent identity formation 2000–2010: A review of longitudinal research. *Journal of Research on Adolescence*, 21, 75–94. doi:10.1111/j.1532-7795.2010.00716.x
- Meeus, W. H. J., Iedema, J., Helsen, M., & Vollebergh, W. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review*, 19, 419–461. <https://doi.org/10.1006/drev.1999.0483>
- Molenaar, P. C. M. (2004). A manifesto on psychology as idiographic science: Bringing the person back into scientific psychology, this time forever. *Measurement: Interdisciplinary Research and Perspectives*, 2, 201–218. [https://doi.org/10.1207/s15366359mea0204\\_1](https://doi.org/10.1207/s15366359mea0204_1)
- Morgan, V., Dunn, S., Cairns, E., & Fraser, G. (1993). How do parents choose a school for their child? An example of the exercise of parental choice. *Educational Research*, 35, 139–148.
- Mul, D., Fredriks, A. M., Van Buuren, S., Oostdijk, W., Verloove-Vanhorick, S. P., & Wit, J. M. (2001). Pubertal development in The Netherlands 1965–1997. *Pediatric Research*, 50, 479–486. <https://doi.org/10.1203/00006450-200110000-00010>
- Nelemans, S. A., Hale, W. W., III, Branje, S. J. T., Meeus, W. H. J., & Rudolph, K. D. (2018). Individual differences in anxiety trajectories from Grades 2 to 8: Impact of the middle school transition. *Development and Psychopathology*, 30, 1487–1501. <https://doi.org/10.1017/S0954579417001584>
- Nelson, D. A., Hart, C. H., Yang, C., Olsen, J. A., & Jin, S. (2006). Aversive parenting in China: Associations with child physical and relational aggression. *Child Development*, 77, 554–572. <https://doi.org/10.1111/j.1467-8624.2006.00890.x>
- Nurra, C., & Oyserman, D. (2011). *When does the future matter? Connecting future self to current behavior*. Paper presented at the meeting of the European Association of Social Psychology, Stockholm, Sweden.
- Oyserman, D. (2013). Not just any path: Implications of identity-based motivation for disparities in school outcomes. *Economics of Education Review*, 33, 179–190. <https://doi.org/10.1016/j.econedurev.2012.09.002>
- Oyserman, D., & Destin, M. (2010). Identity-based motivation: Implications for intervention. *The Counseling Psychologist*, 38, 1001–1043. <https://doi.org/10.1177/0011000010374775>
- Pinquart, M., & Ebeling, M. (2020). Parental educational expectations and academic achievement in children and adolescents – A meta-analysis. *Educational Psychology Review*, 32, 463–480. <https://doi.org/10.1007/s10648-019-09506-z>
- 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. *Journal of Adolescence*, 47, 135–144. <https://doi.org/10.1016/j.adolescence.2015.11.004>
- Porfeli, E. J., Lee, B., Vondracek, F. W., & Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence*, 34, 853–871. <https://doi.org/10.1016/j.adolescence.2011.02.001>
- Pratt, S., & George, R. (2005). Transferring friendships: Girls' and boys' friendships in the transition from primary to secondary school. *Children and Society*, 19, 16–26. <https://doi.org/10.1002/chi.830>
- Roeser, R. W., Peck, S. C., & Nasir, N. S. (2012). Self and identity processes in school motivation, learning, and achievement. In P. A. Alexander & P. H. Winnie (Eds.), *Handbook of educational psychology* (pp. 391–426). Taylor & Francis.
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48, 1–36. <http://www.jstatsoft.org/v48/i02/>
- Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology*, 100, 765–781. <https://doi.org/10.1037/a001284>
- Smith, J., Guimond, F.A., Aucoin, P., Gagnon, M., Moreau, D., Stamand, J., Ayotte-Beaudet, J.P. & Talbot, E. (2021). Examining high school students' personality traits of extraversion and emotional stability in relation to their academic expectation and value appraisals. *Interdisciplinary Education and Psychology*, 2, 6.
- Steiger, J. H. (1989). *EzPATH: Causal modelling*. SYSTAT.
- Syed, M., & Nelson, S. C. (2015). Guidelines for establishing reliability when coding narrative data. *Emerging Adulthood*, 3, 375–387. <https://doi.org/10.1177/2167696815587648>



- Symonds, J., & Galton, M. (2014). Moving to the next school at age 10–14 years: An international review of psychological development at school transition. *Review of Education*, 2(1), 1–27. <https://doi.org/10.1002/rev3.3021>
- Verhulst, F. C., van der Ende, J., & Koot, H. M. (1997). *Handleiding voor de Youth Self-Report (YSR) [Manual for the Youth Self-Report]*. Afdeling Kinder- en jeugdpsychiatrie, Sophia Kinderziekenhuis/Academisch Ziekenhuis Rotterdam/Erasmus Universiteit Rotterdam.
- Waters, S., Cross, D., & Shaw, T. (2010). Does the nature of schools matter? An exploration of selected school ecology factors on adolescent perceptions of school connectedness. *British Journal of Educational Psychology*, 80, 381–402. <https://doi.org/10.1348/000709909X484479>
- Waters, S., Lester, L., & Cross, D. (2014). Transition to secondary school: Expectation versus experience. *Australian Journal of Education*, 58, 153–166. <https://doi.org/10.1177/0004944114523371>
- Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R. W., & Davis-Kean, P. (2006). Development of achievement motivation. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Social, emotional, and personality development* (pp. 933–1002). John Wiley & Sons, Inc.
- Zahn-Waxler, C., Shirtcliff, E. A., & Marceau, K. (2008). Disorders of childhood and adolescence: Gender and psychopathology. *Annual Review of Clinical Psychology*, 4, 275–303. <https://doi.org/10.1146/annurev.clinpsy.3.022806.091358>
- Zeedyk, M. S., Gallacher, J., Henderson, M., Hope, G., Husband, B., & Lindsay, K. (2003). Negotiating the transition from primary to secondary school: Perceptions of pupils, parents and teachers. *School Psychology International*, 24, 67–79. <https://doi.org/10.1177/0143034303024001010>
- Zhang, T. (2009). Relations among school students' self-determined motivation, perceived enjoyment, effort, and physical activity behaviors. *Perceptual and Motor Skills*, 10, 783–790. <https://doi.org/10.2466/pms.109.3.783-790>
- Zimmer-Gembeck, M. J., & Collins, W. A. (2006). Autonomy development during adolescence. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 175–204). Blackwell.

## Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**Table S1.** Items of the Negative Parental Academic Expectations scale.

**Table S2.** Model fit of longitudinal invariance models for school belonging.

**Table S3.** Covariances between all predictors and between the outcomes in the main model ( $N = 314$ ).

**Table S4.** Regression coefficients of commitment, exploration and expectations on school and psychological adjustment, including Wave 2 control variables ( $N = 314$ ).

**Table S5.** Overview of codes with examples and notes.

**Table S6.** Detailed distribution of reasons given across interviews, clustered by overarching domain, split out by combination of present/absent and cost/benefit addition.

**Table S7.** Regression coefficients of commitment, exploration and expectations on school and psychological adjustment, including the number of different reasons mentioned in the school choice interview ( $N = 170$ ).

**Figure S1.** Statistical representation of the model that was fitted to estimate the relations between educational identity development, expectations, and educational and psychological outcomes.