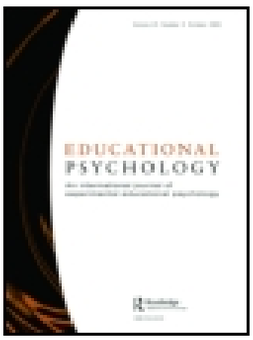

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Educational Psychology
An International Journal of Experimental Educational Psychology

ISSN: 0144-3410 (Print) 1469-5820 (Online) Journal homepage: http://www.tandfonline.com/loi/cedp20

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To cite this article: Nir Madjar & Ronny Chohat (2016): Will I succeed in middle school? A longitudinal analysis of self-efficacy in school transitions in relation to goal structures and engagement, Educational Psychology, DOI: 10.1080/01443410.2016.1179265

To link to this article: http://dx.doi.org/10.1080/01443410.2016.1179265

EDUCATIONAL PSYCHOLOGY, 2016
http://dx.doi.org/10.1080/01443410.2016.1179265

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Will I succeed in middle school? A longitudinal analysis of self-efficacy in school transitions in relation to goal structures and engagement

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ABSTRACT

The current study aimed to explore the concept of transition self-efficacy, which is defined as individuals' subjective evaluation of their ability to execute the actions required for a successful transition from elementary to middle school. The study followed a sample of 128 sixth-grade students for 2 consecutive years (before and after the school transition). A path analysis based on structural equation modelling revealed that the students' perceptions of the teachers' emphasis on mastery goal orientations predicted academic and social aspects of self-efficacy. The social aspect of self-efficacy in turn predicted changes in the students' emotional and behavioural engagement after the transition. The results were robust when we controlled for self-reported GPA and gender. An interaction between gender and aspects of self-efficacy was also observed. The findings emphasise the importance of transition self-efficacy for adaptive school transitions and provide evidence that teachers' goal emphases play a significant role in promoting self-efficacy.

ARTICLE HISTORY
Received 17 August 2015
Accepted 12 April 2016

KEYWORDS
School transition; self-efficacy; engagement; classroom goal structure; path analysis

Most students across the globe experience at least one school transition during the sequence of their formal education. The implications of such transitions are still debated; some findings indicate a decline in student achievement, engagement and well-being (Alspaugh, 1998; Otis, Grouzet, & Pelletier, 2005; Simmons & Blyth, 1987; Wang & Holcombe, 2010), whereas other studies demonstrate null or positive effects on students' self-perceptions or their perceived social climates (Booth & Gerard, 2014; Weiss & Kipnes, 2006). Barber and Olsen (2004) explored 24 factors related to student perceptions after school transitions and found five factors that significantly improved after the transition and three factors that were negatively affected. The five factors that were significantly positive included teachers' support, homework assignments, self-esteem and lower levels of depression and loneliness. The three factors with significantly negative results included achievement, the need for school organisation and students' relationships with their fathers. These complex findings have led researchers to investigate individual and contextual factors that could moderate the effects of transitions and promote adaptive adjustment to new schools. For example, adequate support from teachers and parents before and after a school transition can promote a student's adaptive adjustment to a new school (Hanewald, 2013; Symonds & Galton, 2014). Similarly, high classroom quality and small schools also predict the success of adaptive transitions beyond the timing factor (Holas & Huston, 2012). Inspired by the social cognitive theoretical

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framework (Bandura, 2001), the current study aimed to identify additional factors that can promote the success of adaptive school transitions, as indicated by students' engagement after transitions.

One overlooked factor is students' perceptions of their own ability to successfully cope with expected school transitions. Expectations of a positive transition have been found to significantly predict actual positive experiences (Waters, Lester, & Cross, 2014), and findings have suggested that most students look forward to change schools, reporting positive and enjoyable experiences after such transitions (Chedzoy & Burden, 2005). However, students' beliefs surrounding their ability to adequately adjust to new schools have received less attention. Therefore, the current study aimed to examine the concept of transition self-efficacy (Bandura, 1994). We sought to explore whether the concept of transition self-efficacy could be defined and measured as a combination of academic and social aspects, whether these aspects are explained by perceptions of teacher practices one year prior to the transition and whether these aspects can predict students' emotional and behavioural engagement after the transition. To address these research questions, we followed a sample of students for two consecutive school years, before and after the transition from elementary to middle school.

We first define the concept of self-efficacy, which is a key concept in social cognitive theory (Bandura, 2001), and introduce the novel concept of transition self-efficacy, which is based on social cognitive theory. Using this theoretical framework, we included students' perceptions of their teachers' goal emphases in the classroom (i.e. the classroom's goal structure; e.g. Urdan, 2010) as a contextual factor that can explain transition self-efficacy. Students' post-transition engagement was used as an indicator of the adaptive adjustment that can be explained by transition self-efficacy. Based on previous findings, gender and prior achievement are discussed as possible factors that should be controlled.

Social cognitive theory: the concept of self-efficacy

Social cognitive theory is a broad perspective that emphasises the role of human agency in behaviours, choices and performance (Bandura, 2001). A basic assumption in this theory is that people learn by observing and interpreting social contexts and cues. These cognitive perceptions thus act as mediators between contextual factors and personal behaviours. A key concept in human agency is self-efficacy, which is defined as an individual's subjective evaluation of his or her ability to successfully execute the actions required to perform a specific task well (Bandura, 1977, 1994). Research has suggested that self-efficacy is domain specific (Schunk & Pajares, 2009); hence, for example, a person can have different beliefs regarding his or her ability to learn a new language compared with his or her ability to solve mathematical equations or to successfully implement self-regulatory learning strategies (Usher & Pajares, 2008a).

Self-efficacy has been established as a crucial aspect of education based on ample evidence of its association with students' school performance (e.g. Jiang, Song, Lee, & Bong, 2014; Schnell, Ringeisen, Raufelder, & Rohrmann, 2015); well-being (Vieno, Santinello, Pastore, & Perkins, 2007); use of adaptive, self-regulated learning strategies (Pajares, 2002); and motivation and engagement (Schunk & Mullen, 2012). Researchers have thus endeavoured to identify sources that promote self-efficacy within educational contexts.

The research on self-efficacy suggests four major sources of self-efficacy: mastery experiences, vicarious experiences, social persuasion and physiological states (Bandura, 1994). Recent empirical findings support this four-source model for middle school students' self-efficacy in science (Chen & Usher, 2013) and mathematics (Usher & Pajares, 2008b) and for teaching self-efficacy among college professors (Morris & Usher, 2011).

Using this conceptual framework, scholars have also explored additional personal and contextual factors that explain students' perceived self-efficacy within school settings. For example, a teacher who is perceived to care, who provides challenging tasks and who promotes mastery-oriented learning (i.e. encourages self-improvement and deep learning) can enhance students' self-efficacy in mathematics, which is in turn associated with higher achievement among elementary school students (Fast et al., 2010). Task characteristics such as inquiry-based learning have also been associated with students'

self-efficacy (Jansen, Scherer, & Schroeders, 2015). These findings align with other studies indicating that self-efficacy mediates the relationships between students' perceptions of educational contexts and their behaviours and performance (e.g. Jiang et al., 2014).

Given the findings of these recent studies and the tenets of social cognitive theory, it is reasonable to hypothesise that students' perceptions of the educational climate will affect their personal self-efficacy. In the current study, we employed the classroom goal structure as an indicator of the educational climate, as recent empirical findings have suggested that the perceived classroom goal structure is highly associated with the general classroom climate (Koskey, Karabenick, Woolley, Bonney, & Dever, 2010; Patrick, Kaplan, & Ryan, 2011).

Developing a measure of transition self-efficacy

A brief scale for assessing students' transition self-efficacy was developed based on the guidelines suggested by Bandura (2006a). To facilitate the assessment of self-efficacy, items focused on students' beliefs about what they are capable of doing rather than what they actually will do or other expected outcomes. Consistent with other scales included in the survey, the scale ranged from 1 to 5.

Based on previous studies specifically exploring students' concerns regarding school transitions, we identified two major topics about which students had concerns: coping with high academic expectations and adjusting to new social settings (e.g. Ashton, 2008; Ganeson & Ehrich, 2009). For instance, in a survey conducted in the UK, being bullied, being lost, establishing positive peer relationships and coping with an increased academic work load were ranked as the most disturbing concerns among students, parents and teachers before the transition (Zeedyk et al., 2003). These concerns are consistent with the themes identified by the official programme of the Israeli Ministry of Education (2004), which instructs school counsellors to focus on the academic (e.g. a new learning system) and social (e.g. separation from old friends) aspects of school transitions.

We created items to incorporate these two aspects and originally created 10 items focusing on successful academic and social experiences. For example, the academic aspect included questions regarding students' abilities to obtain good grades or to cope well with the new expectations and demands of middle school, whereas the social aspect included questions about their abilities to acquire new friends and establish good relationships.

Contextual factors promoting self-efficacy: classroom goal structures

In this study, we adopted a conceptual framework of achievement goal orientations to define and assess the perceived educational context (Ames, 1992; Dweck, 1986). In achievement goal theory, motivation is defined as the general objectives that students pursue when engaging in a learning task. Researchers have recently suggested four (Elliot & McGregor, 2001; Madjar, Kaplan, & Weinstock, 2011) or six (Elliot, Murayama, & Pekrun, 2011) goal orientations. However, the three goals most commonly investigated within this framework are the following: mastery goals, which refer to aspirations to acquire new knowledge or skills while using intra-personal criteria to evaluate performance; performance-approach goals, which involve obtaining positive external evaluations and outperforming others; and performance-avoidance goals, which focus on avoiding negative evaluations.

Many studies have consistently supported the short-and long-term benefits of maintaining mastery goal orientations; the pursuit of a mastery goal is generally associated with students' well-being, their adaptive use of learning strategies and their actual performance (see Kaplan & Maehr, 2007; for review). These findings have prompted researchers to explore personal and contextual factors that may promote mastery goal orientations within educational settings. One factor explaining personal achievement goals is students' perceptions of teachers' goal emphases or classroom goal structures (Ames, 1992; Urdan, 2010). A mastery goal structure is defined as a teacher's emphasis on the importance of deep learning, a preference for effort over performance and the acceptance of mistakes as part of the learning process. By contrast, a performance goal structure refers to a teacher's emphasis on actual performance,

competition and comparisons among students. Studies have consistently indicated that perceived goal structures are associated with personal achievement goals (Urdan, 2010).

The rationale for including perceived classroom goal structures as predictors of transition self-efficacy was based on findings indicating that a mastery goal structure enhances students' self-efficacy in mathematics, which is in turn associated with higher achievement (Fast et al., 2010; Levpušček, Zupančič, & Sočan, 2013). A mastery goal structure can also promote self-efficacy during the transition from elementary school to middle school: students who transit to a higher mastery goal structure report stronger self-efficacy (Friedel, Cortina, Turner, & Midgley, 2010). Furthermore, the classroom goal structure can moderate the relationships between students' concerns about the transition and their adjustment to the new school (Duchesne, Ratelle, & Roy, 2012).

These recent findings and the theoretical model introduced for this study are aligned with stage-environment fit theory, which posits that school transitions frequently coincide with crucial physical and psychological developmental stages (Eccles & Roeser, 2009; Eccles et al., 1993). Based on this assertion, research has found that transitions to less intimate and more demanding educational settings may create a mismatch between students' developmental needs and their actual learning environments (Hines, 2007; Martínez, Aricak, Graves, Peters-Myszak, & Nellis, 2011; Midgley, Anderman, & Hicks, 1995). These findings suggest that for most students, school transitions may negatively affect motivation, self-perception and school performance (Alspaugh, 1998; Otis et al., 2005; Simmons & Blyth, 1987; Wang & Holcombe, 2010).

Self-efficacy and related concepts, such as competence beliefs and academic self-concepts, also change over time depending on the domain and contextual attributes. For instance, competence beliefs have generally been found to decline after school transitions and this decline is moderated by gender. In one study, boys were more affected by school transitions and reported a decline in their competence beliefs in relation to mathematics, whereas girls reported a slight increase (Chouinard & Roy, 2008). Additional findings have suggested that students who exhibit a superior ability to transit to secondary school report a stronger decrease in their academic self-concept (Arens & Watermann, 2015). By contrast, findings from a recent study of secondary school students in Hong Kong revealed a decline in students' self-concept in mathematics and an increase in their self-concept in English (as second language) over a period of three school years (King & McInerney, 2014). Therefore, the effect of school transitions on self-efficacy and other self-concept beliefs remains indistinct, with some findings suggesting a negative effect and others reporting a null effect (see Symonds & Galton, 2014, for a review). However, the current study focused on the concept of transition self-efficacy rather than academic self-concepts or domain-specific self-efficacy. We aimed to explore the associations of students' self-efficacy regarding the expected transition on their post-transition engagement.

The role of gender

Previous studies have revealed gender differences in students' self-efficacy that are often based on their developmental stages. In elementary school, both girls and boys hold similar beliefs about their math and language capabilities; however, in secondary education, girls grow more confident in their language skills, whereas boys become more confident in their math skills (Pajares, 2002). Recent findings have suggested that boys' general self-esteem is higher than that of girls during their transition to middle school, although boys' perceptions of the climate and attitudes toward school are worse (Booth & Gerard, 2014). In addition, boys report higher expectations of a positive school transition (Waters et al., 2014); thus, gender should be considered as a control variable when exploring self-efficacy related to this transition.

Gender may also serve as an important factor in explaining the processes and relationships between psychological constructs. For example, studies have suggested that girls may be more sensitive to social cues; hence, a similar social context may affect girls differently than it affects boys (e.g. Eisenberg & Lennon, 1983). However, recent empirical findings have not supported the hypothesised gender differences for the mean levels of and processes affecting academic self-efficacy among high school

students (Schnell et al., 2015). The current study focuses on an earlier developmental stage and determines whether gender serves as an important factor in processes associated with transition self-efficacy.

Outcomes: emotional and behavioural engagement

Numerous studies have demonstrated the importance of self-efficacy for student behaviours and performance (e.g. Gutman & Midgley, 2000; Phan, 2013; Wilson & Narayan, 2014). In this study, we focused on student engagement as a potential outcome of transition self-efficacy. The objective was to focus on the general aspect of students' perceived effort and behaviour in school, which may indicate their adaptive adjustment to school transitions. Educators and researchers often perceive enhancing students' engagement as an ultimate goal in itself; however, those students who attend to, participate in, make an effort in and enjoy learning tasks are also more likely to succeed in school and pursue higher education (Finn & Zimmer, 2012). Therefore, it is highly important to explore factors that can promote students' engagement in general (Renninger & Bachrach, 2015) and specifically after a school transition.

Many researchers have endeavoured to identify a theoretical definition of and validated measures for student engagement (e.g. Fredricks, Blumenfeld, & Paris, 2004; Greene, 2015). Based on a conceptual framework that defines engagement as comprising emotional and behavioural components (Skinner, Kindermann, & Furrer, 2009), we adopted a short scale that assesses these two components. Emotional engagement refers to positive emotional experiences during a task, whereas behavioural engagement refers to actual effort and persistence during a task. These aspects of engagement have been determined to be consistently important for students' well-being (Pietarinen, Soini, & Pyhältö, 2014) and achievement in school (Galla et al., 2014); therefore, additional aspects that can promote student engagement must be explored to utilise engagement as an indicator of adaptive school transitions.

Academic self-efficacy has been determined to be related to the emotional and behavioural aspects of engagement (Shim & Finch, 2014). Students who are confident in their ability to perform well in school tasks are more likely to experience positive emotions and to actively participate in these tasks. Therefore, this study reasonably speculates that transition self-efficacy may predict these aspects of engagement after an actual school transition occurs.

The current study

Social cognitive theory posits that our interpretation of social contexts affects our personal beliefs, which in turn lead to related choices and behaviours. Although this path is not unidirectional, as our conceptions can also shape our perceptions of contextual factors (Bandura, 2006b), self-efficacy has been suggested to mediate the relationships between perceived contextual factors and student behaviours and achievement (e.g. Jansen et al., 2015; Jiang et al., 2014). In the current study, we aimed to determine the construct validity of self-efficacy in school transitions and possibly explore antecedents and expected outcomes of transitions.

Based on the conceptual framework, we posited that transition self-efficacy may be predicted by perceived teacher practices and may in turn predict student engagement after actual transitions occur (see Figure 1 for a conceptual model). To examine this hypothesised model, we measured the perceived classroom goal structure at the beginning of sixth grade (wave 1), assessed students' transition self-efficacy at the end of sixth grade (wave 2), followed the students after the school transition and asked them to self-report their engagement at the beginning of seventh grade (wave 3). Given the ample evidence that self-efficacy is often associated with student achievement (e.g. Galla et al., 2014; Jiang et al., 2014) and that gender plays a significant role in self-efficacy (Pajares, 2002; Schnell et al., 2015), both prior achievement (i.e. self-reported GPA) and gender were included as control variables in the model.

The study relies on theoretical frameworks that have been examined in numerous cultural contexts, including Western (e.g. Germany: Jansen et al., 2015; USA: Galla et al., 2014) and Eastern (e.g. China: Liu & Lu, 2014; Korea: Jiang et al., 2014) societies. The current study is situated within a cultural context similar to that of other Western countries, in which most students' transition to middle school after

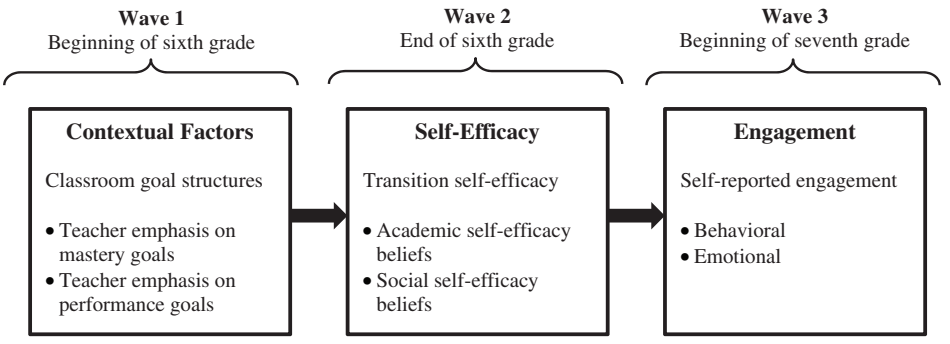

Figure 1. Schematic hypothesised model of the current study.

sixth grade (Resh & Dar, 2012). Compared with elementary schools, these middle schools have more students at each grade level and most subjects are taught by specialist teachers who are experts in the subject. Students are assigned to a homeroom, and the teachers move among classes. The homeroom is sometimes split to allow learning at different levels based on the students' proficiency in certain domains, such as English as a foreign language or mathematics. Students generally attend school for 6–7 h each day (school ends at approximately 2–3 pm).

Method

Participants

The study was conducted in three elementary schools in an urban area in central Israel. The students' ages ranged from 11 to 12, and 54% of the students were girls. According to the Israeli Central Bureau of Statistics (2013), this area is populated by those with middle-to-high socioeconomic statuses. In the current study sample, all students' transition from elementary schools at the end of sixth grade and are assigned to the middle school in this area. A total of 175 students initially participated in the study (an 85.7% response rate), and 128 students completed the surveys in all three waves (a 26.4% attrition rate). No significant differences existed between the students who participated in all three waves, and the remaining students were observed when all measured factors were compared.

Most students in Israel transit from elementary school to middle school at the end of sixth grade, but in some districts, this transition occurs at the end of eighth grade upon entering high school (Resh & Dar, 2012). Therefore, this sample represents most elementary schools in Israel. Furthermore, all students transitioned to the same middle school in the same area. This transition to a single middle school enabled the exclusion of some confounding factors, such as district policies regarding the transition or the specific characteristics of the middle school to which each student transitioned.

Procedure

The participants completed the surveys in three waves during the study: the first wave occurred two months after the beginning of sixth grade, the second wave occurred two months prior to the end of sixth grade and the third wave occurred two months after the beginning of seventh grade (with a gap of approximately six months between each wave). In each wave, the participants were asked to complete surveys in class; the surveys took approximately 35 min to complete because they included additional variables as part of a larger research project. A trained research assistant was present during the entire survey period to provide a brief explanation of the study and to offer support to the students who were completing the surveys. The surveys were matched across the waves using a unique code that was not

given to any of the research assistants or the principal investigator (PI). The study was approved by the Israeli Ministry of Education, and all school principals were involved.

Statistical analyses

We first used confirmatory factor analysis (CFA) to explore the construct validity of the transition self-efficacy scale (Schreiber, Nora, Stage, Barlow, & King, 2006). This approach enabled us to determine whether our hypothesised two-factor model fits the data and to compare this model with an alternative model (i.e. single factor model). To assess the goodness of fit for all the CFAs, we examined the ratio of the chi-square to its degrees of freedom (CMIN/DF), which is a good fit when it is less than 3; the comparative fit index (CFI) and the Tucker–Lewis index (TLI), which should be close to .95; and the root mean square error of approximation (RMSEA), which should be less than .08. We then determined whether the correlation pattern fits our theoretical model. For instance, we expected that a perceived mastery goal structure would be associated with transition self-efficacy, while a performance goal structure would not be. This step was followed by repeated analysis of covariance (ANCOVA) measures to examine the mean-level difference between the two aspects of transition self-efficacy while controlling for gender and self-reported GPA.

The primary method of analysis was a path analysis using structural equation modelling (SEM; e.g. Loehlin, 1998). This model enabled us to examine the entire hypothesised model (Figure 1) using the same goodness-of-fit indices as described for the CFA. For this analysis, we first ran the model with all possible paths and then removed all non-significant paths and reported the final model that best fit the data.

Instruments

Classroom goal structures

The students' perceptions of their teachers' emphases on goal orientations in wave 1 (i.e. classroom goal structures) were assessed using the subscales of the Pattern of Adaptive Learning Scale (PALS; see Midgley et al., 2000), including the perceived teacher emphasis on mastery goals (five items; sample item: 'In our class, the emphasis is on really understanding school work, not just memorising it') and the perceived teacher emphasis on performance goals (six items; sample item: 'In our class, students who get good grades are held up as examples to others'). The students were asked to rank their level of agreement with each item on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The CFA results supported the two-factor model (CMIN/DF = 1.16; CFI = .982; TLI = .972; RMSEA = .036), which performed significantly better than the single-factor model ($\Delta\chi^2 = 23.93$, $p < .001$; CMIN/DF = 1.91; CFI = .896; TLI = .844; RMSEA = .095).

Transition self-efficacy

Students' perceptions of their abilities to successfully cope with the academic and social aspects of school transitions were assessed using an eight-item scale developed for this study. For each item, students were asked to respond to the statement on a scale from 1 (*I'm certain that I can't*) to 5 (*I'm certain that I can*). The academic aspect of transition self-efficacy included 5 items (sample item: 'To perform well in academic tasks in middle school'), and the social aspect included three items (sample item: 'To establish good relationships with the new kids in middle school'; see Table 1 for all items and factor loadings). The CFA supported the two-factor model (CMIN/DF = 1.91; CFI = .956; TLI = .918; RMSEA = .075), which performed significantly better than the single-factor model ($\Delta\chi^2 = 99.52$, $p < .001$; CMIN/DF = 6.79; CFI = .709; TLI = .477; RMSEA = .214). The original scale included 10 items; however, 2 items were removed because of their high loadings on both aspects of self-efficacy and the lack of valid distinction between these aspects (i.e. 'To get used to the new rules in middle school' and 'To get along with the new teachers in middle school'). We assumed that students could not distinguish between the

Table 1. Items and factor loadings for the transition self-efficacy measure.

Item	Academic SE factor loadings	Social SE factor loadings
To meet the high academic expectations in middle school	.901	
To cope with the different academic demands in middle school	.810	
To perform well in academic tasks in middle school	.781	
To get good grades in middle school	.660	
To get used to a different learning style in middle school	.633	
To get along with students in middle school classes		.863
To establish good relationships with kids in middle school		.849
To make new friends in middle school		.764
Sum of Squared Loadings	*37.72%*	*28.27%*

Notes: Academic SE – academic aspects of transition self-efficacy; Social SE – social aspects of transition self-efficacy. Only factor loadings above .30 are presented.

social and academic skills required to accomplish the goals of adjusting to new rules and establishing positive relationships with teachers.

School engagement

Students' self-reported levels of engagement before and after the school transition (waves 1 and 3) were assessed using a scale developed by Skinner et al. (2009). The scale comprised a four-item subscale measuring emotional engagement (sample item: 'I enjoy learning new things in class') and a four-item subscale measuring behavioural engagement (sample item: 'In class, I work as hard as I can'). Each item score ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). For both waves, the CFA supported the two-factor model (CMIN/DF = 1.76; CFI = .965; TLI = .934; RMSEA = .077; CMIN/DF = 1.62; CFI = .968; TLI = .939; RMSEA = .070; respectively), which performed significantly better than the single-factor models ($\Delta\chi^2$ (1) = 82.28, $p < .001$; $\Delta\chi^2$ (1) = 49.46, $p < .001$, respectively).

Self-reported GPA

Students' estimations of their school GPAs were assessed using a single item (wave 1), which asked the students to indicate the range of grades that they typically received on a scale from 1 to 4 (1 = D's or lower, 2 = usually C's, 3 = usually B's, 4 = A's or higher). This single item was adapted from the Maryland Adolescent Development in Context Study (MADICS; see, e.g. Wang & Eccles, 2013), as we were unable to gain approval to access students' actual report cards because of the school's concerns about students' confidentiality.

Results

Preliminary analyses

An examination of the psychometric characteristics and correlation matrix (Table 2) provided further support for construct validity. First, the academic aspect of transition self-efficacy was associated with students' self-reported GPAs ($r = .46$, $p < .001$); however, the social aspect of transition self-efficacy was not associated with students' self-reported GPAs. Furthermore, as observed in previous studies (e.g. Shim, Cho, & Wang, 2013), students generally reported stronger perceptions of mastery goal structures compared with performance goal structures (t (134) = 16.75, $p < .001$). The mastery goal structure was associated with both academic and social aspects of transition self-efficacy ($r = .41$, $p < .001$; $r = .28$, $p < .01$, respectively), but the performance goal structure was not associated with these aspects. These results supported the basic hypotheses regarding the relationships between transition self-efficacy and students' perceptions of their educational climate and engagement.

Students reported high levels of both academic and social self-efficacy in the transition. To examine whether the two aspects showed any significant differences, we conducted a repeated-measures ANCOVA while controlling for gender and self-reported GPA. The results yielded a significant difference

Table 2. Correlation matrix and descriptive statistics.

Variable	Mean (SD)	α	1	2	3	4	5	6	7	8
Wave 1										
1. GPA	2.89 (.72)	N/A	–							
2. Mastery structure	4.27 (.71)	.80	.28**	–						
3. Performance structure	2.30 (.85)	.77	−.14	−.52***	–					
4. Emotional engagement	3.97 (.75)	.81	.41***	.44***	−.22*	–				
5. Behavioural engagement	3.50 (.86)	.80	.32***	.54***	−.42***	.69***	–			
Wave 2										
6. A-SE	4.18 (.62)	.88	.46***	.42***	−.12	.48***	.35***	–		
7. E-SE	4.56 (.53)	.82	.07	.28**	−.05	.32***	.24*	.45***	–	
Wave 3										
8. Emotional engagement	3.89 (.79)	.81	.04	−.10	.02	.16	.05	−.01	.14	–
9. Behavioural engagement	3.47 (.90)	.82	.02	.08	−.04	.10	.10	−.02	.20*	.55***

Notes: A-SE – transition academic self-efficacy (wave 2); S-SE – transition social self-efficacy (wave 2); Mastery structure – perceived teacher emphasis on mastery goals (wave 1); Performance structure – perceived teacher emphasis on performance goals (wave 1); Emotional – emotional engagement after school transition (wave 3); Behavioural – behavioural engagement after school transition (wave 3).
All scales ranged from 1 to 5, except for GPA, which ranged from 1 to 4.
$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

between the aspects of self-efficacy ($F(1,114) = 38.22$, $p < .001$, *Partial* $\eta^2 = .25$): students' academic self-efficacy was generally weaker than their social self-efficacy ($M = 4.18$, SD = .62; $M = 4.56$, SD = .53, respectively). Although gender had no main effect, the interaction between gender and aspects of self-efficacy was significant ($F(1,114) = 13.46$, $p < .001$, *Partial* $\eta^2 = .11$). This interaction indicated that the boys reported higher levels of academic self-efficacy than the girls ($M = 4.29$, SD = .62; $M = 4.07$, SD = .59, respectively), whereas the girls reported higher social self-efficacy ($M = 4.46$, SD = .60; $M = 4.65$, SD = .46, respectively).

Primary analysis

The path analysis revealed that the perceived mastery goal structure in wave 1 significantly predicted both academic and social aspects of students' transition self-efficacy in wave 2. The social aspect of transition self-efficacy significantly predicted the change in students' behavioural and emotional engagement after the school transition (when we controlled for engagement at wave 1). The model fit indices showed an adequate fit with the data (CMIN/DF = 1.92; CFI = .946; TLI = .902; RMSEA = .085), indicating that they supported the conceptual model (Hu & Bentler, 1999; Figure 2).

The findings indicated that mastery and performance goal structures were negatively correlated, while both aspects of engagement were positively correlated with a mastery goal structure and negatively correlated with a performance goal structure. The academic and social aspects of self-efficacy and the behavioural and emotional aspects of engagement were positively correlated at each wave.

The results remained robust when we control for self-reported GPA, which indicated that all paths remained significant, as presented in the final model, and confirmed that none of the paths became non-significant. Furthermore, a multi-group analysis using SEM to compare boys and girls indicated no significant gender differences between the unconditional model and the equal structural weights model ($\Delta\chi^2$ (6) = 82.28, p = ns) (Satorra & Bentler, 2001). These results indicated that the model constraining the correlations between all factors to be equal between boys and girls did not significantly differ from the unconstrained model. In summary, boys and girls exhibited similar patterns of associations with self-efficacy.

Discussion

How will I adjust to my new school? Will I be able to make new friends? These types of questions occupy the minds of many students who await a school transition (e.g. Ashton, 2008; Ganeson & Ehrich, 2009).

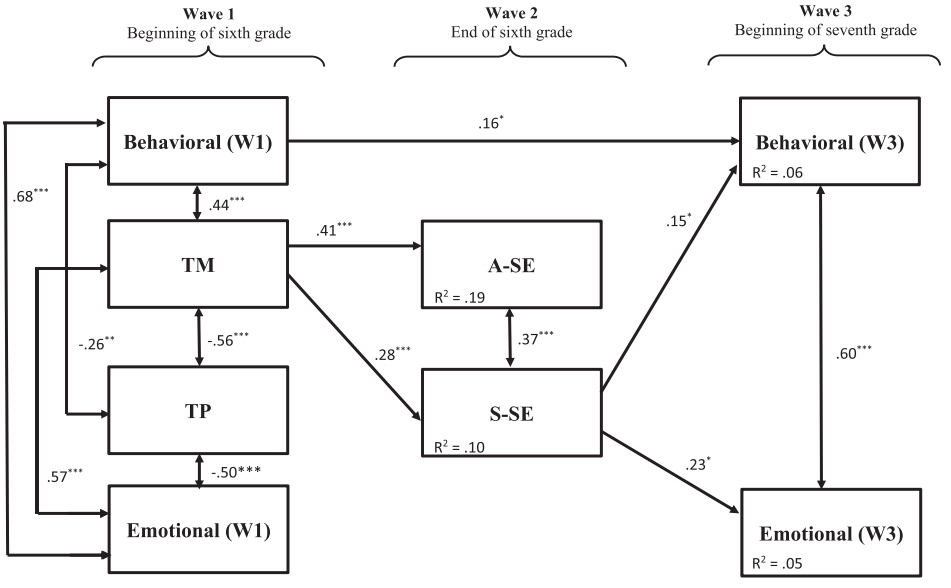

Figure 2. The results of the path analysis using SEM.

Note: TM – perceived teacher emphasis on mastery goals (wave 1); TP – perceived teacher emphasis on performance goals (wave 1); A-SE – transition academic self-efficacy (wave 2); S-SE – transition social self-efficacy (wave 2); Emotional – emotional engagement after school transition (waves 1 + 3); Behavioural – behavioural engagement after school transition (waves 1 + 3). $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; only significant paths are presented.

Based on social cognitive theory (Bandura, 1994), students' evaluations of their abilities to successfully cope with these challenges can be defined as transition self-efficacy; however, this concept has not been empirically explored in any previous studies. The current study aimed to investigate the concept of transition self-efficacy and to explore its possible antecedents and outcomes among elementary school students. The goal of this study was to identify aspects of transition self-efficacy and to determine whether classroom goal structures explain transition self-efficacy, which may in turn predict students' engagement after school transitions.

The aspects of transition self-efficacy

Aspects of self-efficacy have been consistently determined to be important in understanding individuals' motivation, self-regulated learning and achievement within educational contexts (Schunk & Mullen, 2012). As self-efficacy is domain specific and sensitive to contextual factors, people can exhibit high self-efficacy in one area and low self-efficacy in another area (Schunk & Pajares, 2009). The findings from the current research support the idea that transition self-efficacy is an important construct for both academic and social aspects. These aspects were hypothesised based on previous research that suggested that students are concerned with their ability to adjust to new academic and social expectations after a school transition (Ashton, 2008; Ganeson & Ehrich, 2009). The factor analysis procedure indicated that, despite the high correlation between the academic and social aspects of school transitions, students could distinguish between the two and provide different assessments of their abilities to cope with each aspect. Furthermore, students generally felt very confident in their abilities, with higher confidence levels observed for the social aspects of school transitions than for the academic aspects.

The study provides initial validation of the transition self-efficacy scale that was developed. The construct validity of the scale was adequate, and the hypothesised mechanisms associated with transition self-efficacy were supported by the data. Further research is required to replicate these results and to examine them within various populations and cultural contexts.

Perceived goal structure as a predictor of transition self-efficacy

The data also indicated that students' perceptions of teachers' practices play a significant role in predicting students' transition self-efficacy over time. When students perceive that their teacher encourages learning and understanding instead of achievement, emphasises self-improvement instead of social comparisons and is patient in addressing students' mistakes (i.e. he/she provides a mastery goal structure; e.g. Kaplan, Middleton, Urdan, & Midgley, 2002; Urdan, 2010), these perceptions predict higher levels of transition self-efficacy among students. Teachers who create a mastery-oriented climate in the classroom can increase students' confidence in their abilities to achieve the expected goals. In other words, if the teacher expects students to put forth effort and improve their skills based on intrapersonal standards, then students have more opportunities to meet this expectation instead of attempting to outperform others. The performance goal structure had no effect on transition self-efficacy; however, previous findings have demonstrated that this structure can impair students' crucial learning processes (Kaplan & Maehr, 2007; Schwinger & Stiensmeier-Pelster, 2011).

As expected, teacher emphasis on mastery goals was positively related to concurrent student engagement, while teacher emphasis on performance was negatively related to engagement (Urdan, 2010). We would not expect that their current teacher's goal emphasis would affect students' engagement after the transition, once they have moved to a different educational context (e.g. Martínez et al., 2011; Midgley et al., 1995). However, the students' personal disposition toward the transition, namely, their transition self-efficacy beliefs, was an important factor in predicting changes in their engagement after the transition.

Transition self-efficacy and engagement

The findings indicated that the social aspect of transition self-efficacy predicted both emotional and behavioural engagement after the transition occurred. Students who felt more competent to establish new social relationships were also more likely to report higher engagement in middle school, perhaps because when students are less concerned about social challenges or difficulties in school, they may be more available to engage in academic tasks (Ganeson & Ehrich, 2009). Therefore, acknowledging the social aspects of school transitions is important. Previous research has suggested that social and relational factors become salient before and after school transitions (Pratt & George, 2005), and our study demonstrates that these factors are also related to academic adjustment. If social aspects become more prominent and challenging after a transition, then we can speculate that those who are more confident in their ability to cope with these challenges can maintain more adaptive functioning in other domains. In contrast, for those who do not feel confident in their social abilities, efforts to obtain and sustain social relationships may result in decreased academic engagement.

Similar to the stage-environment fit approach (Eccles & Roeser, 2009), our study supports an emphasis on individual development in the classroom rather than competitive tasks; such a focus addresses students' needs and promotes an adaptive transition to middle school. In addition, the results indicate that a mastery-oriented environment prior to transitions is associated with students' future resilience, which predicts better post-transition outcomes.

Furthermore, teachers and practitioners should regard gender as a relevant factor in transition self-efficacy. Similar to previous studies that identified gender differences in different domains (e.g. Pajares, 2002), our study revealed that boys felt more confident in their academic adjustments to middle school compared with their social adjustments, whereas girls reported the opposite. This interaction and the lack of significant differences in the processes associated with transition self-efficacy (i.e. similar predictors and outcomes for boys and girls) revealed gender domain-specific differences.

Limitations and future research

This study demonstrated the utility and importance of understanding students' transition self-efficacy; however, some limitations should be considered. First, because the effect sizes ranged from low to

moderate, other factors should be considered antecedents of transition self-efficacy. Although a perceived goal structure in the classroom can be considered a vigorous indicator of the educational climate (Patrick et al., 2011), it is certainly not the sole predictor of transition self-efficacy. Based on the literature on the sources of self-efficacy, we can speculate that peer influences, family support and additional teaching practices influence these beliefs (Chen & Usher, 2013; Usher & Pajares, 2008b). For example, if a student is encouraged to believe in his ability to make new friends and has siblings who have already experienced a successful school transition, he is more likely to exhibit high self-efficacy regarding the expected transition. Similarly, students who receive more assistance and support after the transition are expected to experience a better adjustment (Evangelou et al., 2008). Although all students in the current study transitioned to the same middle school, exploring differences among specific teachers may enhance our understanding of school transition effects. This rationale may inspire future studies that aim to advance our understanding of the transition self-efficacy construct.

The measurement of self-efficacy in the current study was domain specific based on the rationale that context-dependent assessment of self-efficacy would enable more precise predictions (Bandura, 2006b; Pajares, 1997). However, future research could explore this assertion by including a more general self-efficacy measure for comparison. Furthermore, the scales in this study are based on self-report measures that represent subjective perceptions of contextual factors (Fulmer & Frijters, 2009). Self-report measures were chosen based on the social-cognitive theoretical paradigm, which posits that subjective self-perceptions mediate the relationship between contextual factors and behavioural or emotional outcomes (Bandura, 2001). Hence, students' perceptions of their teachers' practices rather than their actual actions constitute the proximal predictor of students' attitudes and behaviours (Kaplan, Gheen, & Midgley, 2002). Additional support for students' self-reported levels of engagement is found in the significant correlation between the students' and teachers' reports of emotional and behavioural engagement (Skinner et al., 2009).

Therefore, despite some limitations, this study provides interesting insights into the role of the perceived classroom goal structure in students' transition self-efficacy, which in turn predicts their emotional and behavioural engagement after a school transition.

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