Students' perceptions of parental and teacher academic involvement: Consequences on achievement goals

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The present study examined whether students' perceptions of two major facets of parental and teacher academic involvement (i.e., academic support and academic monitoring), contribute to the process of students' achievement goals adoption. French junior high-school students completed two questionnaires assessing first their perceptions of parental and teacher academic involvement, and then their achievement goals three months later. Factorial analyses showed that students differentiated parental academic monitoring from parental academic support, while predominantly perceiving their teacher academic involvement as reflecting monitoring. Multilevel modeling analyses indicated that, as expected, students' perceptions of parental academic support were positively related to mastery goals while unrelated to performance goals. Also as expected, perceived academic monitoring was associated with performance goals, although the findings revealed an equal contribution of perceived parental and teacher involvement. This new insight about the antecedents of students' achievement goals emphasizes how important is the role of parental and teacher academic socialization.

The critical role of motivation at school has generated considerable research to understand students' differences in achievement motivation. In the last 20 years, achievement goal theory has become one of the dominant frameworks for investigating students' achievement motivation and related academic outcomes (Ames, 1992; Dweck, 1986; Elliot, 1999; Harackiewicz, Durik, Barron, Linnenbrink-Garcia, & Tauer, 2008; Maehr, 1984;

Midgley, Kaplan, & Middleton, 2001; Nicholls, 1984; Pintrich & Schunk, 2002). Achievement goals are defined as situationally specific orientations that refer to the reasons students are pursuing achievement tasks, and that affect how students experience and perform these tasks. Initially, a distinction was made between mastery and performance goals (Ames, 1984; Dweck, 1986; Maehr, 1989; Nicholls, 1984). Mastery goals orient students to focus on the task and the learning process itself, to acquire new skills, and to develop competence and task mastery. Performance goals orient students to focus on the self and performance, and to demonstrate competence relative to others. The most recent developments of the theory further integrate the approach-avoidance dimension within both mastery and performance goals, in order to distinguish orientations toward approaching positive outcomes and those toward avoiding negative outcomes (Cury, Elliot, Da Fonseca, & Moller, 2006; Elliot, 1999; Elliot & McGregor, 2001; see also Pintrich, 2000a,b). The resulting mastery-approach and mastery-avoidance goals still both focus on the learning process, but through either the strive for development of competence or the avoidance of not developing competence (respectively). Likewise, performance is still the focus of both performance-approach and performance-avoidance goals, but through either the demonstration of competence or the avoidance of demonstration of incompetence relative to others (respectively).

Several research have shown that achievement goals have powerful and differential consequences on cognitive processing strategies, responses to challenge and failure, affects, and performance outcomes (e.g., Cury et al., 2006; Elliot, 1999; Elliot & McGregor, 2001; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002). Since achievement goals are important determinants of a wide range of educational outcomes, greater attention should be devoted to what leads students to adopt each type of goals (Church, Elliot, & Gable, 2001; Elliot & McGregor, 2001). There are indeed only few empirical studies on the antecedents of achievement goals. These studies, which have mainly examined student- and classroom-level variables, found that implicit motives, implicit theories of intelligence, perceived competence, fear of failure, and classroom characteristics are important predictors of achievement goals (Church et al., 2001; Cury et al., 2006; Elliot & Church, 1997; Elliot & McGregor, 2001). Of particular interest for the present paper, the role of parental and teacher socialization has been quite neglected. This is surprising given that both parents and teachers proved to be important socializing agents that contribute to shape students' academic values and behaviors (Darling & Steinberg, 1993; Eccles & Harold, 1993; Wigfield & Eccles, 1992). Especially powerful are students' perceptions of how their parents and teachers actively participate in their schooling. At least two kinds of behaviors are usually considered when assessing parental/teacher academic involvement: academic support and academic monitoring behaviors. Academic support can be viewed as an affective component of academic involvement and refers to the extent to which parents/teachers provide encouragement, help, and support concerning the child/student's *academic* behaviors and outcomes (e.g., helping with homework; supporting them in the choices they make at school; supporting them when they have academic difficulties; Chouinard, Karsenti, & Roy, 2007; Midgley, Feldlaufer, & Eccles, 1989; Patrick, Ryan, & Kaplan, 2007). Academic monitoring is much more evaluative and refers to the behavioral control parents/teachers may exert on child/student's *academic* behaviors and outcomes (e.g., controlling whether homework is done; supervising whether they do their best in academics; Gonzalez, Holbein, & Quilter, 2002; Gurland & Grolnick, 2005). Using either one or both components, research consistently found that students who perceive their parents (Epstein, 1991; Grolnick, Ryan, & Deci, 1991; Grolnick & Slowiaczek, 1994; Régner & Loose, 2006; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Strage & Swanson Brandt, 1999) and teachers (Felner, Aber, Primavera, & Cauce, 1985; Goodenow, 1993; Patrick et al., 2007; Wentzel, 1994, 1997) to be actively involved in their academic activities, report higher perceived competence, greater intrinsic motivation, task engagement, persistence in the face of difficulty, and better academic performance. According to authors, active academic involvement (be it actual or perceived by students) may communicate to students how much their parents and/or teachers value education, which may, in turn, motivate them to engage and succeed in academic tasks.

Based on these findings, some authors have wondered whether students' perceptions of academic involvement from their parents (Gonzalez et al., 2002), teachers (Wentzel, 1998), or both (Chouinard et al., 2007), would also influence students' mastery and performance achievement goals. Conducted on elementary- or middle-school students and based on the initial distinction between mastery and performance goals, these studies revealed that perceived parental and teacher academic involvement positively predicted students' mastery goals, whereas no significant association was found with performance goals. According to the authors, the positive association found with mastery goals may reflect the fact that perceiving active academic involvement from parents, teachers, or both, is likely to increase students' interest and enjoyment in achievement tasks and their willingness to self-improve (Midgley, Feldlaufer, & Eccles, 1989; Patrick et al., 2007), which are integral parts of mastery goals (but not of performance goals). Although we agree with this explanation, we think there is a major limitation in these studies that prevents from having a whole picture about the impact of parental and teacher academic involvement on students' mastery *versus* performance goals. Indeed, these studies focused exclusively on students' perceived academic support from their parents and/or teachers (e.g., helping with homework, helping students choose academic courses, helping students learn). By doing so, these studies have neglected that both parents and teachers are also important sources of academic control and evaluation for students (Eccles & Harold, 1993; Steinberg et al., 1992). Distinguishing between academic monitoring and academic support is yet very relevant to address the issue of achievement goals. As previously noticed, supervising whether homework is done, whether students make progress, or whether they do their best at school are examples of active academic monitoring behaviors that can endorse both parents and teachers. Such behaviors clearly convey an evaluative pressure (not present in academic support behaviors) that is more likely to focus students on performance outcomes than on the academic learning process *per se* (Ames & Archer, 1988; Maehr & Midgley, 1991). Given that performance is the central focus of performance goals but not mastery goals (whatever the approach-avoidance dimension), we reasoned that parental/teachers academic monitoring, when perceived by students, might orient them more towards performance goals than towards mastery goals. In line with this suggestion, it has been found that parental monitoring *measured at a general level* (i.e., general parenting practices of child rearing that pressure children to behave in specific ways in everyday life) was positively related to students' performance goals but unrelated to mastery goals (Gonzalez et al., 2002; Gurland & Grolnick, 2005). However, since these studies assessed parental monitoring at a general level instead of at the specific *academic* level, the question of the differential impact of perceived parental *academic monitoring* on mastery and performance goals remains unanswered. This same question also applies to teacher academic monitoring. Furthermore, the fact that teachers are those who assign academic grades also raises the issue of the relative influence of parents *versus* teachers academic monitoring on students' performance goals. Teachers being the first evaluators of students' academic outcomes, it could be that teacher academic monitoring had a greater weight than parental academic monitoring on students' endorsement of performance goals. Chouinard et al.'s (2007) study, which simultaneously examined the unique contribution of parents and teachers academic involvement, could not provide any answer on this specific point since only perceived academic support was measured. Therefore, the question of the contribution of parental and teacher academic monitoring on performance goals remains unsolved.

In order to provide a clear picture regarding the specific aspects of the parents and teachers academic involvement that contribute to the process of students' achievement goals adoption, the present study simultaneously examined students' perceptions of both parents and teachers academic support and academic monitoring. In line with past relevant research, we focused on parents and teachers academic involvement from the students' perspective. Indeed, it is now well established that students' academic outcomes are more influenced by their own perceptions of the home and school contexts than by the actual contexts themselves as they can be objectively assessed or reported by parents and teachers (Grolnick et al., 1991; Roeser, Midgley, & Urdan, 1996; Steinberg et al., 1992). Consistent with past research, we expected

that students' perceived academic support (from both parents and teachers) would predict mastery goals but not performance goals. In addition, we expected that students' performance goals would be predicted by students' perceptions of parental and teacher academic monitoring (with perceived teacher monitoring being a better predictor than perceived parental monitoring). Moreover, going several steps further than past research, these predictions were tested (1) while using multilevel modeling, which provides a powerful methodology for handling hierarchical data such as those coming from studies conducted in school settings (students nested in classrooms), (2) while using the most recent 2x2 achievement goals framework that crosses the performance-mastery and approach-avoidance dimensions, and (3) while controlling for students' perceived competence, which proved to be an important predictor of students' achievement goals (e.g., Cury et al., 2006; Elliot, 1999).

Method

Participants

Participants were 503 French junior high-school students (266 girls and 237 boys, aged 13 to 16, M_{age}=14.70, SD_{age}=.73) from 26 classes across three French (public) schools. The schools involved both urban and suburban areas from the department of Haute-Garonne in France. The three schools were predominantly populated by students who came from middle-class educational and occupational backgrounds (57% of the students were from middle-class, 25% from lower-class, and 18% from upper-class backgrounds). In each school, all the 8th and 9th grade classes (N=26) were retained for the study. Participants had been assigned by school administrators to one of these 26 classrooms, with 13 to 26 students in each class and 5 to 11 classes per school. They all volunteered to participate in this study described as research on students' motivation at school. We obtained consent and permission from all appropriate authorities (parents, school administrators, and teachers). Only 23 students (4.37%) were not allowed by their parents to participate (526 students were originally contacted).

Measures

Perceptions of Parental and Teacher Academic Involvement. Comparing the influence of perceived parental and teacher academic support and academic monitoring required using a similar measure of these two components for parents and teachers. The scale used in the present study was thus modeled after different scales used in past relevant research (e.g., Chouinard et al., 2007; Gonzalez-DeHass, Willems, & Doan, 2005). It consisted of 8 items, each being formulated twice (once for perceived parental involvement and once for perceived teacher involvement), and all ratings were made on a 5-point scale (1=*strongly disagree*, 5=*strongly agree*). Four items assessed students' perceived academic monitoring: "My parents/teachers monitor whether I have done my homework", "My parents/teachers supervise whether I do my best in academics", "My parents/teachers monitor my academic outcomes", "My parents/teachers supervise whether I make progress". Four items assessed students' perceived academic support: "My parents/teachers support me when I have academic difficulties", "My parents/teachers encourage me when I get good grades", "My parents/teachers talk to me about my academic problems", "My parents/teachers give me advice to do my homework". The factorial structure of this new scale is presented in the Results Section.

Perceived Competence. As a measure of perceived competence, we used the Performance State Self-Esteem Scale (Heatherton & Polivy, 1991)[1]. It consisted of seven items (e.g., "I feel as smart as others") and ratings were made on a 5-point scale (1=*strongly disagree*, 5=*strongly agree*). The negative items were reverse scored so that a high score indicated a higher academic self-esteem (α=.78; M=3.29, SD=.67).

Academic Grades. Academic grades were also collected to control for students' prior academic ability as well as class-average ability. T2 grades, ranging from 0 (fail) to 20 (excellent), were taken from the school records for each of the six most important courses (i.e., mathematics, physics, biology, French, history, and foreign language). The overall mean grade across the six courses was computed and used to assess student ability (*M*=11.32, *SD*=2.79) as well as class-average ability.

Achievement Goals. Orientations toward mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals at school were assessed with the 12-item scale of Elliot and McGregor (2001). Three items assessed each goal (mastery-approach: e.g., "I want to learn as much as possible in class"; mastery-avoidance: e.g., "I worry that I may not learn all that I possibly could in class"; performance-approach: e.g., "It is important for me to do better than other students of my class"; and performance-avoidance: e.g., "I just want to avoid doing poorly in class"). All ratings were made on 5-point scales (1=*strongly disagree*, 5=*strongly agree*). A confirmatory factor analysis (CFA) was conducted on the covariance matrix (using maximum likelihood estimation) to test the fit of the four-goal model[2]. As it is the case for big sample size (*N*>200), the Chi-square statistic was significant [χ^2(48, *N*=503)=164.30, *p*<.001]. As expected, all the other indexes indicated that the four-factor model provided a good fit to the data (GFI=.95; CFI=.94; RMSEA=.072; SRMR=.067); all items displayed good to strong loadings on their respective factors (.40 to .97). Four mean scores were thus computed: Mastery-approach goal orientation (α=.74; *M*=3.80, *SD*=.80), performance-approach goal orientation (α=.79; *M*=2.96, *SD*=1.01), mastery-avoidance goal orientation (α=.79; *M*=3.18, *SD*=.91), and performance-avoidance goal orientation (α=.60; *M*=3.47, *SD*=.82).

Procedure

Participants were asked to complete two questionnaires[3]. The first one was administered at the end of trimester 2 (T2) and contained scales designed to measure perceived competence, and both perceived parental and teacher academic involvement. The second questionnaire was administered at the end of trimester 3 (T3) and comprised scales aimed at assessing participants' achievement goals. Both questionnaires were administered in class by teachers (who had been fully instructed about how to proceed) to all students in attendance. Participants were assured that their responses would be anonymous and confidential. We thus used a code number specific to each student so that T2 and T3 cases could be matched.

Results

Factorial structure of perceived parental and teacher academic involvement scale

To check whether this scale did empirically cluster into four factors (parental support, parental monitoring, teacher support, and teacher monitoring), we performed an exploratory factor analysis on the 16 items. Unexpectedly, a three-factor solution emerged, which accounted for 52% of the total variance. Actually, the first factor consisted of the 8 teacher involvement items and accounted for 29% of the variance, indicating that students did not distinguish between academic support and academic monitoring from their teachers. In contrast, they did make the difference for parents since the second factor comprised the 4 parental academic monitoring items (16% of the variance explained), and the third one comprised the 4 parental academic support items (7% of the variance explained). All items displayed good to strong loadings on their respective factors (.41 to .88 and 90% of them were greater than .50). A CFA conducted on the covariance matrix (using maximum likelihood estimation) confirmed that the three-factor model provided a good fit to the data. Indeed, despite the significance of the Chi-

square statistic [χ^2(101, N=503)=207.07, p<.001], all the other indexes indicated a good model fit (GFI=.95; CFI=.95; RMSEA=.045; SRMR=.039). Therefore, three mean scores were computed, one for students' perceived parental academic support (α=.75; M=3.70, SD=.81), one for students' perceived parental academic monitoring (α=.73; M=3.30, SD=.87), and one for students' perceived teacher academic involvement (combining both support and monitoring components; α=.82; M=2.85, SD=.67). Pearson correlations indicated that parental monitoring and support were highly intercorrelated [r(502)=.56, p<.001], and both were moderately correlated with teacher involvement [r(502)=.25, p<.001 and r(502)=.27, p<.001 respectively].

Predicting T3 achievement goals

Because students are nested within classes, which are nested within schools, individual students characteristics are often confounded with classroom or school characteristics. Indeed, as outlined by Marsh, Martin, and Cheng (2008), "students are typically more similar to other students within their class than they are to other students from different classes" (p. 80). Therefore, the typical single-level analyses that ignore this clustering are likely to be invalid (finding significance where none exists). As previously noticed, multilevel modeling provides a powerful methodology for handling such hierarchical data. A detailed presentation of multilevel modeling is beyond the scope of the present paper and can be found elsewhere (e.g., Bryk & Raudenbush, 1992; Goldstein, 1995; Raudenbush & Bryk, 2002; Snijders & Bosker, 1999). For the present study, we specified two-level models, with students as the first level and classes as the second level (three schools were not enough to specify a satisfying second or third level; Kreft & de Leeuw, 1998). A series of multilevel analyses were thus conducted to examine whether students' perceived parental academic support, parental academic monitoring, and teacher academic involvement (all assessed at T2), predicted achievement goals (assessed at T3). This hypothesis was tested while controlling for students' prior ability (level 1) and the classes clustering by using class-average ability (level 2). Class-average ability appeared as a relevant Level 2-control variable for at least two reasons. First, it allows controlling for the classes clustering using a less arbitrary hierarchical ranking than the class number taken as a dummy variable. Second, class-average ability might affect both the predictors and outcome variables of the present study[4]. A series of multilevel random coefficient models (MRCM) were computed using the program HLM 6 (Raudenbush, Bryk, Cheong, & Congdon, 2004). Following Bryk and Raudenbush (1992), all continuous variables were standardized (z scoring) to have M=0 and SD=1 across the entire sample, so that interpreting coefficients is relatively straightforward. As a dichotomous variable, student sex was retained in its original metric (males=0 and females=+1). We systematically controlled for student sex because this variable has been found to significantly predict achievement goals among a comparable sample of French junior high-school students (Régner, Escribe, & Dupeyrat, 2007).

We first checked whether perceived competence was a significant predictor of achievement goals in our sample by regressing each type of goals on students' perceived competence, while controlling for student sex, prior student ability, and class-average ability. As expected, perceived competence was positively related to mastery-approach goals (β=.15, t=2.17, p<.05) and negatively related to mastery-avoidance goals (β=-.28, t=3.30, p<.001). However, perceived competence appeared to be unrelated to performance goals (β=.09, t=1.50, ns for performance-approach goals and β=-.00, t=.08, ns for performance-avoidance goals).

Then, students' perceived parental academic support, parental academic monitoring, and teacher academic involvement were added to this model, still controlling for student sex, prior student ability, and class-average ability (See Table 1). Among these covariates, only students ability and student sex were significantly associated with achievement goals. Student ability was positively related to performance-approach goals (β=.16, t=3.04, p<.01), and student sex was positively related to mastery-avoidance goals (β=.26, t=2.78, p<.01) but negatively related to

performance-approach goals (β=-.26, t=3.44, p<.001). These last findings indicated that, relative to boys, girls reported greater mastery-avoidance goals but lower performance-approach goals.

Table 1

Summary of fixed effects from multilevel modeling analyses

	Mastery-approach goals		Mastery-avoidance goals		Performance-approach goals		Performance-avoidance goals	
	β	t	β	t	β	t	β	t
Intercept	-.08	0.91	-.16	2.32	.12	1.80	.03	0.52
Level 1 variables								
Sex	.16	1.53	.26***	2.78	-.26***	3.44	-.02	0.18
Student Ability	.08	1.10	.11	1.09	.16**	3.04	.03	0.44
Perceived competence	.07	1.13	-.34***	4.00	.06	0.84	-.06	0.71
Parental monitoring	.17***	4.05	.13***	2.51	.14*	2.35	.09	1.35
Parental support	.20***	3.76	.14***	2.62	.01	0.21	.09	1.30
Teacher involvement	.18***	4.36	.21***	5.42	.12*	2.02	.11**	2.95
Level 2 variable								
Class-average ability	-.01	0.10	-.02	0.21	-.10	0.11	.01	0.07
Level 1 variance	.70		.74		.85		.85	
Explained variance	.27		.25		.10		.15	

Note. *p<.05; **p<.01;***p<.001. Sex was scored 0 for boys and +1 for girls. The coefficients (β) can be directly interpreted. For example, the coefficient of .17 for the relationship between parental monitoring and mastery-approach goals means that for a one-unit increase in parental monitoring (corresponding to 1.0 *SD* increase because all measures were standardized), there was an increase in mastery-approach goals of .17.

More importantly for the present paper, results indicated that, as expected, students' perceived parental academic support positively predicted mastery goals (both mastery-approach goals: β=.20, t=3.76, p<.001, and mastery-avoidance goals: β=.14, t=2.62, p<.01), but was unrelated to performance goals (either to performance-approach goals or to performance-avoidance goals). Results obtained on perceived parental academic monitoring were partly congruent with our expectations since this variable positively predicted performance-approach goals (β=.14, t=2.35, p<.05), but was unexpectedly unrelated to performance-avoidance goals. The analyses also revealed that perceived parental academic monitoring positively predicted both mastery goals (mastery-approach goals: β=.17, t=4.05, p<.001 and mastery-avoidance goals: β=.13, t=2.51, p<.05). Students' perceived teacher academic involvement positively predicted each of the four goals (mastery-approach goals: β=.18, t=4.36, p<.001, mastery-avoidance goals: β=.21, t=5.42, p<.01, performance-approach goals: β=.12, t=2.02, p<.05, and performance-avoidance goals: β=.11, t=2.95, p<.001). As can been seen in Table 1, all these effects were obtained while controlling for students' perceived competence[5]. In addition, we estimated the strength of the relationships between perceived parental/teacher academic involvement and achievement goals (which are all level 1 variables). To do so, the error variances of the unconditional model (in which no term other than the intercept is included at any level) and the full model (containing all predictors) were compared for each of the four achievement goals (see Nezleck, 2001). The level 1 variances from each unconditional model were as follows: .96 for mastery-approach goals, .99 for mastery-avoidance goals, .94 for performance-approach goals, and .99 for performance-avoidance goals. Table 1 reports the level 1 variance for each full model as well as the amount of explained variance. As can be seen in Table 1, the explained variances ranged between .10 and .27, indicating medium effect sizes.

Discussion

The aim of the present study was to examine the specific aspects of students' perceptions of parental and teacher academic involvement that contribute to the process of their achievement goals adoption. For that purpose, we simultaneously assessed students' perceptions of parental and teacher academic involvement, while making the distinction between academic support and academic monitoring. Indeed, we suggested that the neglect, in past studies, of students' perceptions of academic monitoring, contributed to explain the lack of any significant relationship between parental/teacher academic involvement and students' performance goals in these studies. We hypothesized that perceiving academic monitoring from parents and teachers would orient students toward performance goals, and maybe even more when this monitoring comes from teachers, who are the primary judges of students' competence. In line with past research, we also expected that perceived parental and teacher academic support would predict mastery goals but not performance goals.

Factorial analyses provided preliminary useful information concerning the distinction between students' perceptions of parental and teacher academic involvement, in relation to their perceptions of academic support and monitoring. When asked about their perceptions of parental academic involvement, students clearly differentiated academic support from academic monitoring. However, they did not distinguish these two components when asked about their perceptions of teacher academic involvement. This is particularly interesting given that the items used to assess each component were exactly the same for both parents and teachers. Combined with the only modest correlations between teacher involvement and each component of parental involvement (both inferior to .28), we are thus led to admit that the same behaviors can be differently perceived by students depending on whether these behaviors are carried out by parents or by teachers (for a similar suggestion, see Bong, 2008). In addition, the fact that all teacher items loaded on a single factor indicates that they had the same meaning for students. As teachers are, by definition, those who evaluate students academic outcomes, it is very likely that items designed to assess teacher academic monitoring had colored the meaning of those aimed at assessing teacher academic support, hence resulting in a global perception of academic monitoring. This suggestion finds some support in the results related to students' achievement goals. Indeed, the pattern of results obtained for students' perceptions of teacher academic involvement was very similar to that obtained for students' perceptions of parental monitoring. More precisely, both variables were related to mastery as well as performance-approach goals, whereas students' perceptions of parental academic support were only related to mastery goals. This strengthens the idea that what students perceived behind teacher academic involvement was closer to a monitoring rather than support component. Furthermore, performance-avoidance goals were related to perceived teacher involvement but unrelated to perceived parental monitoring. This may reflect that the pressure students perceive from their teachers is greater than that they perceive from their parents, or is at least somewhat different as indicated by the only modest correlation between parental monitoring and teacher involvement. After all, teachers, but not parents, give marks and use them to decide whether students will move up into the next grade. Students may thus be especially motivated to demonstrate their competence to their teachers (i.e., orientation towards performance-approach goals) or, at least, to avoid demonstrating incompetence (i.e., orientation towards performance-avoidance goals). However, this greater impact of perceived teacher academic monitoring over parental monitoring seems not so strong since it did not generalize to performance-approach goals (similar influence of teacher and parental involvement; βs=.12 and .14 respectively). Actually, even if the present findings overall tend to indicate a predominance of the monitoring component in how students perceive their teacher academic involvement, the importance of teacher support should not be discarded. Previous research has shown that perceived teacher academic support leads to positive affect toward school (Valenzuela, 1999) and higher academic achievement (Ginorio & Huston, 2001; Wentzel, 1997, 1998). It is quite likely that students need to perceive their teachers as being supportive in order to be sensitive to their monitoring behaviors. In fact, teacher

academic monitoring and support behaviors might be so intrinsically linked from the students' point of view, that it may be difficult for them to pronounce on teacher academic support while disregarding the monitoring dimension.

The findings concerning the relationship between perceived parental academic involvement and achievement goals also confirmed the necessity to distinguish between the monitoring and support components. As expected, students' perceived parental academic support was positively related to mastery goals, but unrelated to performance goals. These results held regardless of the distinction between approach and avoidance forms of the goals, hence complementing past research in which the approach-avoidance dimension was not integrated (Chouinard et al., 2007; Gonzalez et al., 2002; Wentzel, 1998). In addition, the findings obtained on performance goals were in line with our expectations. Contrary to past research that found no relationship between students' performance goals and their perceptions of parental and teacher academic involvement (Chouinard et al., 2007; Gonzalez et al., 2002; Wentzel, 1998), we showed that students' performance goals can be predicted by both parental and teacher academic involvement provided that this involvement is perceived by students as reflecting academic monitoring. Taken together, these findings indicate that perceiving academic support is more likely to orient students toward the academic learning *per se* (and thus toward mastery goals), whereas perceiving academic monitoring is likely to orient them toward the evaluative side of the learning process (and thus toward performance goals). The fact that academic monitoring was also related to mastery goals is not contradictory to this suggestion. Indeed, some research within the achievement goals framework has shown that evaluation is also an important component of mastery goals: Having an accurate representation of one's ability is necessary to know whether competence development or task mastery is possible (Butler, 1995; Régner et al., 2007). Finally, given that learning process is at the core of mastery goals (both mastery-approach and mastery-avoidance goals) and performance at the core of performance goals (both performance-approach and performance-avoidance goals), it is not surprising that the academic support/monitoring distinction exerted its influence much more on the performance-mastery dimension than on the approach-avoidance dimension.

The present study is not without limitations. First, although our research used a longitudinal design and was derived from theoretical considerations and previous empirical studies, its correlational nature prevents any firm conclusion about causality. Because students' initial levels of achievement goals were not controlled, cautiousness is required concerning the temporal relationships between perceived academic involvement and achievement goals. Future longitudinal studies using a longer time sequence and controlling for initial levels of the dependent variables could be helpful to fully address the causality issue. Second, all the scales used here were French translations of either original validated scales (perceived competence and achievement goals) or a mix of items from several scales (perception of parental and teacher academic involvement). Thus, it might be that linguistic and/or cultural biases occurred. Although this possibility cannot be entirely ruled out, the CFAs findings and reliability estimates indicated satisfying construct validity and internal consistency. Third, the present research focused on achievement goals and students' perceptions of their teachers and parents academic involvement in general, regardless of the subject domain. However, students' motivation can vary by subject domain (e.g., Anderman & Midgley, 1997; Eccles, Midgley, & Adler, 1984; Stodolsky, Salk, & Glaessner, 1991), at least because of the specific demands that can differ from one subject to another (Ames & Archer, 1988; Stodolsky et al., 1991). Likewise, parents and teachers can hold different attitudes and behaviors toward their children and students depending on the academic subject (e.g., Frome & Eccles, 1998). Clearly, future research being more domains specific is needed.

Despite these limitations, the present findings help complete the whole picture regarding the specific aspects of the parental and teacher academic involvement that contribute to the process of students' achievement goals adoption. They showed that (1) students hold different perceptions of parental and teacher academic involvement, clearly differentiating parental academic monitoring from parental academic support while predominantly perceiving monitoring in their teacher academic involvement, and (2) students' perceptions of academic

support and academic monitoring differentially influenced their adoption of mastery *versus* performance goals. Finally, the very fact that perceived parental and teacher academic involvement influenced students' achievement goals while the effect of perceived competence was controlled, emphasizes how important is the role of parental and teacher academic socialization.

Notes

1   According to the achievement goals framework (Cury et al., 2006; Elliot, 1999), high perceptions of competence are expected to orient students toward success and approach goals whereas low perceptions of competence are expected to orient students toward failure and avoidance goals. The Performance State Self-Esteem Scale (Heatherton & Polivy, 1991) assesses the extent to which students feel their performance is worthy, and comprises items such "I feel like I'm not doing well" (reversed), "I feel confident about my abilities" (which are also commonly used to assess perceived competence; Cury et al., 2006; Kaplan & Midgley, 1997). Therefore, this scale was well suited for testing these expectations.

2   CFA results were interpreted in light of several indexes (Hu & Bentler, 1999). The Chi-square statistic (testing the closeness of fit between the data and the model) is expected to be non significant (the model is a good representation of the data). However, because the Chi-square test is often significant in large samples (N>200; which is the case in the present study) despite reasonable fit to the data (Bentler & Bonett, 1980; Hair, Anderson, Tathman, & Black, 1999), alternative indexes of fit were used: The comparative fit index (CFI; Bentler, 1990), the goodness-of-fit index (GFI; Jöreskog & Sörbom, 2000), the root-mean-square error of approximation (RMSEA; Browne & Cudeck, 1992), and the standardized root-mean-square residual (SRMR; Byrne, 2001). Typically, RMSEA values (ranging from 0 to 1) lower than .08 are considered to reflect adequate fit, values less than .05 to .06 indicate good fit. Likewise, SRMR values range from 0 to 1 and values less than .08 are indicative of acceptable fit. Generally, CFI and GFI range from 0 (poor fit) to 1 (perfect fit); values of .95 or higher are indicative of good model fit.

3   The data for this study were collected in the context of a larger project. None of the relationships reported in the present research have been reported previously.

4   It is noteworthy that although intraclass correlation was weak (less than .10), the intergroup variance was significantly different from zero for all models but one (χ^2=56.50, p<.001, for performance-approach goals; χ^2=44.18, p<.01 for mastery-approach goals; χ^2=37.45, p<.05 for mastery-avoidance goals; and χ^2=26.87, p=.36 for performance-avoidance goals). These results were indicative of a significant level 2 variance for three of the models, thus allowing the inclusion of class-average ability (level 2) in these models (in our point of view, class-average ability was theoretically the best predictor for level 2). However, to simplify the understanding of analyses (by using a strictly identical modeling procedure for each of the four achievement goals), we also included class-average ability in the performance-avoidance goals model.

5   Although we used perceived competence as a control variable, one may also consider it as a potential mediator of the relationships between parental/teacher academic involvement and achievement goals. After all, it is reasonable to think that higher perceived parental/teacher academic involvement may increase students' perceived competence, which in turn may increase their academic motivation. According to the four-step procedure outlined by Baron and Kenny (1986) for testing mediation (for an application of this procedure within the multilevel modeling framework, see Krull & MacKinnon, 1999, 2001), one step requires that the predictor significantly predicts the presumed mediator. However, this step was not satisfied in the present study since neither parental monitoring, nor parental support, nor teacher involvement significantly predicted perceived competence (β=–.02, *ns*; β=.07, *ns*; β=.04, *ns*; respectively). In the present data set, therefore, perceived competence was not a mediator of the relationships between parental/teacher academic involvement and achievement goals.

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L'objectif de cette étude était d'examiner si l'implication que les élèves perçoivent de la part de leurs parents et de leurs enseignants dans leur scolarité (implication perçue étudiée à travers ses deux principales dimensions: soutien et contrôle) influence le type de buts d'accomplissement qu'ils adoptent. Des collégiens français ont rempli deux questionnaires. Le premier mesurait leurs perceptions du soutien et du contrôle scolaires émanant de leurs parents et de leurs enseignants. Le second, trois mois plus tard, évaluait leurs buts d'accomplissement. Les analyses factorielles ont tout d'abord montré que les élèves font une nette distinction entre les deux composantes de l'implication parentale (soutien vs contrôle). A l'inverse, ils perçoivent l'implication de leurs enseignants comme relevant essentiellement du

contrôle. Les analyses multi-niveaux ont indiqué que la perception qu'ont les élèves du soutien parental est positivement associée aux buts de maîtrise, mais n'est pas reliée aux buts de performance. Finalement, la perception qu'ils ont du contrôle scolaire (exercé aussi bien par leurs parents que par leurs enseignants) est associée aux buts de performance. Cette nouvelle contribution sur les antécédents des buts d'accomplissement en contexte académique confirme l'importance du rôle des parents et des enseignants dans la socialisation scolaire.

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Current theme of research:

Antecedents and consequences of academic psychological disengagement of stigmatized students. Influence of ethnic identity and gender identity on school adaptation. The interplay between achievement goal theory and social comparison theory. The interplay between social comparison and the Big-Fish-Little-Pond-Effect. Stereotype threat among female students in math, science, and engineering.

Most relevant publications in the field of Psychology of Education:

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Most relevant publications in the field of Psychology of Education:

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Social comparison. Social facilitation. Social regulation of cognitive functioning.

Most relevant publications in the field of Psychology of Education:

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